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THE KYRGYZ REPUBLIC

STATE COMMITTEE OF INFORMATION TECHNOLOGY AND COMMUNICATIONS

Environmental and Social Management Framework for Digital CASA - Central Asia - the Kyrgyz Republic Project

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CONTENTS

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ACRONYMS AND ABRVIATIONS

CASA	Central Asia South Asia
CIW	Construction and installation works
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ES	Environmental and Social
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMoP	Environmental and Social Monitoring Plan
ESMP	Environmental and Social Management Plan
FON	Fiber-Optic Networks
FOCL	Fiber-Optic Communication Lines
GIS	Geographic Information System
GovNet	Government Networks
ICT	Information and Communications Technology
IT	Information Technology
IUPN	International Union for the Protection of Nature
KR	the Kyrgyz Republic
Km	Kilometer
LGA	Local Government Authorities
LESMP	Local Environmental and Social Management Plan
m	Meter
NAS	National Academy of Sciences of the Kyrgyz Republic
NGO	Non-Governmental Organization
OFCC	Optical Fiber Communication Cable
OP	Operational Policy
PAP	Project-Affected Person
PMU	Project Management Unit
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SCITC	State Committee of Information Technology and Communications of the Kyrgyz Republic
SAEPFGKR	State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic
SIETS	State Inspectorate for Environmental and Technical Safety
SPNT	Specially Protected Natural Territories
TOR	Terms of Reference
WB	World Bank

INTRODUCTION

Project description The Environmental and Social Management Framework (ESMF) for the Digital CASA - Central Asia – the Kyrgyz Republic project, developed within the framework of the World Bank requirements for similar projects (category B) and commissioned by the project management unit (PMU), the State Committee for Information Technology and Communication of the Kyrgyz Republic and the "EcoPartner" consulting company is presented below.

The document includes following chapters: i) project description (chapter 1.); (ii) Legal, policy and institutional framework for environmental management in the Kyrgyz Republic (chapter 2.); iii) the World Bank's protection policy applicable to the Project (chapter 2, section 2.1.); and iv) a description of the ecological and social characteristics of the Kyrgyz Republic (Chapter 3.); v) an analysis of the potential environmental and social impacts and risks of the Project (chapter 4.); (vi) A description of the procedures and tools for environmental and social management in the framework of the Digital CASA-Central Asia- the Kyrgyz Republic and its subprojects (Chapter 5).

ESMF is "... a tool that analyzes the risks and consequences when a project consists of a program and / or a series of sub projects, and risks and impacts cannot be determined until information about Program or sub project will not be defined. The ESMF sets out principles, rules, guidelines and procedures for the assessment of the environmental and social risks and impacts. It contains measures and plans to reduce, mitigate and / or compensate for adverse risks and impacts, provisions for assessing and budgeting costs of such measures, as well as information on the agency or agencies responsible for addressing project risks and impacts, including its ability to manage environmental and social risks and consequences "[1].

1. PROJECT DESCRIPTION

This chapter provides detailed information about the Digital CASA - Central Asia - the Kyrgyz Republic project.

Section 1.1 presents an overview of the regional program Digital CASA, which provides the context for the development of the Digital CASA- Central Asia- the Kyrgyz Republic Project .

Section 1.2 describes the proposed development objective of the Project and the components of the Project.

1.1. Digital CASA Regional Program

“The proposed Digital CASA Regional Program aims to implement a regional, cross-border approach to develop a regional transit hub for Internet traffic, and improve broadband Internet connectivity in Central Asia and parts of South Asia. This will be done by catalyzing private sector investments and cross sector infrastructure sharing and by modernizing relevant policies and regulatory frameworks. The ultimate aim is to bring reliable and affordable Internet services to the citizens of the region, link SMEs and workers to the regional and global digital economy, and catalyze innovations in the delivery of public and private services. The approach is three- fold:

[1] WB, 2016a, стр.. 39

(a) Supply-side (connectivity) interventions under an appropriate public-private partnership (PPP) framework to deploy high capacity cross-border fiber-optic networks across the region (e.g. a purpose built regional wholesale network). The interventions will seek to capture synergies through cross-sector infrastructure sharing (e.g. energy, transport).

(b) Demand-side (digital society and economy) interventions to encourage greater and more productive use of the Internet and the widely spread mobile cellular connectivity by governments, businesses and citizens. Increased demand will facilitate economies of scale to significantly lower the unit costs of investment for both Internet providers and end-consumers, and will help to create new job opportunities, including the facilitation of digital entrepreneurship.

(c) Enabling environment (policy, regulatory, and capacity building) interventions to stimulate competition and private sector investment in the deployment of the ICT infrastructure and services at both regional and national levels.

The proposed project will take into account experiences from the implementation of regional connectivity projects including in East and West Africa, the Caribbean, and the Pacific region. It will focus on creating an enabling environment for investment by private sector and also develop cross-sector synergy between telecom, transport and energy sectors at national, regional and international levels. The project will aim to leverage as much private investment as possible into the regional fiber optic infrastructure, complemented with targeted catalytic public sector investments. Fiber optic infrastructure already in place in the focus countries or scheduled to be put in operation over the next decade or so will be the basis for the planning of domestic, regional and international routing, and will take advantage of optical fiber infrastructure available on power transmission networks (optical ground wire, OPGW) including that of currently installed domestic power networks or foreseen for CASA-1000 optical fiber cable to be laid along the Turkmenistan, Afghanistan, Pakistan and India (TAPI) gas pipe lines, as well as the optical fiber owned by railways and other infrastructure service providers.

On the supply-side, it will be important to continue to increase the availability, use and development impact of regional and national broadband communications infrastructure, including, as required, deployment of a regional backbone network made up of multiple crossborder fiber optic links, domestic backbone networks, government Intranets, and rural access networks. Cross-border transmission links will be coordinated among the CASA countries and with neighboring countries (such as China, Iran, Pakistan and Russia) to guarantee Internet connectivity to all destinations and services. Purchasing of long term international bandwidth for the Government will be funded under Digital CASA to provide access to high speed optical fiber connectivity at affordable rates, and to connect government offices via the development of appropriate Government Networks (GovNet)".

"Significant emphasis is also expected to be placed on facilitating collaboration and joint approaches for the development of demand-side initiatives to take advantage of this regional infrastructure. This will be done notably through and for the delivery of transformative digital government infrastructure, platforms and services (including data-driven innovations and solutions across sectors) and by improving policies and infrastructure for facilitating digital job opportunities via the development of the IT and information technology enabled services (ITES) industries, among others. The demand-side activities are based on strong interests signaled by the governments to include some of these activities as part of the Digital CASA Program, and to build on current relevant activities supported by the World Bank including e-government, open data initiatives, as well as sector-level ICT applications in agriculture, higher education, health, financial sector development, water management, etc.

The Digital CASA Regional Program will be implemented as a series of Projects (SOP) and each phase/project will be based primarily on country readiness. Eligibility criteria to participate in Digital CASA are as follows: (a) existence of a regulatory authority for the sector that is independent from the operators in the market (and/or relevant WTO commitment to establish such regulator), (b) adherence to open access principles; and (c) full liberalization of both domestic and international Internet connectivity, or a time-bound action plan to achieve such liberalization by the midterm review of the Project."

1.2. Digital Casa – Central Asia – The Kyrgyz Republic Project

The Digital CASA - Central Asia – the Kyrgyz Republic project (hereinafter referred to as Digital CASA- the KR) is aimed at the development of a reliable economical infrastructure for broadband international and domestic communications, which will contribute to the development of the digital economy in the Kyrgyz Republic.

In particular, the project will contribute to:

• the growth of the ICT industry through the provision of open, equal access to broadband communication;

• the savings in capital and operating costs through the introduction of a common digital infrastructure;

• the improvement of the investment climate through the development of communications and private sector participation through various financing instruments in the form of public-private partnerships (PPPs), both in the telecommunications industry as well as in the infrastructure and e-government services;

• reaching a new level of quality of services and quality of life, including the rural population;

• creating new jobs, especially for young people.

The Digital CASA project is a part of the "TAZA Koom" program, an initiative recently launched in the Kyrgyz Republic. "TAZA Koom - Transparent Society" programs are aimed at the creation of a State that better serves citizens, improves the provision of state public services and creates better business conditions. This project is initiated for corruption prevention and transfer of most of the public services to digital format. The implementation of the project envisages increasing transparency in the state public administration system by minimizing the impact of the human factor through the automation of administrative processes and procedures.

The Digital CASA – the KR project will include the following components:

Component 1: *Digital Infrastructure.* Within the framework of the component, funding will be provided for the creation of internal and cross-border communication infrastructure necessary to expand access to high-speed Internet at affordable prices in the Kyrgyz Republic and the neighboring countries.

Types of activities may include (without limitation):

(i) completion of a baseline regional network construction consisting of existing fiber-optic networks and new trans-boundary fiber-optic connections, in order to strengthen the connections with the neighboring countries;

(ii) the development of domestic high-capacity fiber optic networks for the establishment of national baseline networks, including Internet-traffic exchange points (IEP);

(iii) the financing of the pre-purchase of high-bandwidth Internet traffic for public use and the expansion of the capacity of the public data transmission network (Govnet);

(iv) the creation of a cloud infrastructure (G-Cloud);

(v) the development of the activities of regional / local Internet service providers.

Within the framework of this component, broadband high-speed Internet will be provided and improved in the ministries, state agencies, universities, schools and hospitals of the Kyrgyz Republic at the regional and local level.

It is assumed that this component will be implemented by several contractor organizations, which will be selected on a competitive basis.

Each contractor will conduct works on a certain part of the FON (Fiber-optic networks) installation route (hereinafter the subproject). Prior to the start of construction and installation works (construction) a contractor, after passing the procurement process and signing a contract with PMU, will prepare and negotiate the necessary project and technical documentation, receive permit/ clearance if necessary for the planned scope of work, in accordance with national legislation and the World Bank requirements.

The preliminary assessment of the activities performed under the Project 1 component showed that during the implementation of this component it is possible to cause temporary negative environmental and social impact associated with the installation of fiber-optic communication lines (FOCL). To reduce and prevent these impacts, special measures are foreseen, and are presented below in this framework document.

Component 2: *Digital platforms and intelligent solutions.* This component will be aimed at the creation of a solid foundation for the development of all future digital services and applications through financing the development of common digital platforms. It will also promote the development of digital applications and services for citizens to increase the use of common digital platforms, support innovation in data and intelligent solutions.

Support will be provided for the creation of a government Cloud for the processing, storage, exchange of data, the development of architectural solutions, the acquisition of support infrastructure and appropriate training for civil servants, to provide citizens, businesses and government employees with a single point of entry (the "single window principle") to ensure access to information and automation of digital services. It is planned to introduce various mechanisms for citizen participation to ensure that electronic services meet the needs of citizens.

Preliminary assessment of the activities within the framework of the 2nd component of the Project has shown that temporary negative impacts on the ecological and social environment associated with the repair of small buildings and structures are also possible during the implementation of this component. To reduce and prevent these impacts, special measures are foreseen, and are presented below in this framework document.

Component 3: *Friendly environment for the digital economy.* This component aims at the strengthening of the legislation, regulation, as well as the institutional and human capacity improvement necessary to enable people to enjoy all the benefits of the digital future, as well as to increase market competitiveness, stimulate innovation and create jobs.

This component will support the creation of a harmonized regional and national friendly environment, such as: (i) regulatory development to promote competition in the telecommunications market, promote cross-border communication and create a friendly environment for the common use of inter-industry infrastructure; (ii) institutional strengthening of the regulator and the growth of telecommunication regulatory capacity; (iii) regulatory development in such areas as: digital government, cyber security, interoperability and solutions for the use of common infrastructure; (iv) development of strategic documents and plans for the digital development of the Kyrgyz Republic.

Component 4: *Project management and the development of digital leadership.* This component will finance activities to manage change and strengthen institutional capacity, monitoring and evaluation, communications, equipment supplies, operational costs and the development of digital leadership for the effective implementation of the project.

Preliminary assessment of the activities within the framework of the Project components 3 and 4 showed that the performance of the activities will not have negative environmental impact. Within the framework of the realization of these components, potential positive social consequences are expected.

2. LEGAL, POLITICAL AND INSTITUTIONAL BASIS OF ENVIRONMENTAL AND SOCIAL MANAGEMENT IN THE KYRGYZ REPUBLIC

The fundamental laws of the Kyrgyz Republic in the field of environmental protection, regulating certain aspects of the requirements in the field of the rational use of natural resources, including requirements for the industrial facilities at a design stage, as well as delineating the responsibility for violations in the field of ecology and the compensation, in the case of the damage caused to natural resources and the health of people will be the following:

- Constitution of the KR (adopted by the referendum (nationwide voting) on June 27, 2010). According to the Article 1 "The Kyrgyz Republic has the absoluteness of the state authority on its territory, independently implements domestic and foreign policy". Paragraph 5 of Article 12 states that "Land, its subsoil, airspace, waters, forests, flora and fauna, other natural resources are the exclusive property of the Kyrgyz Republic, are used to preserve a unified ecological system as the basis for the life and work of the people of Kyrgyzstan and are located under the special protection of the state ".

- The Land Code of the Kyrgyz Republic of June 2, 1999 No. 45 (with the amendments and additions as of July 30, 2016):

In the state ownership there are lands granted to the state land users that are not transferred to private and municipal property.

Lands granted in accordance with the procedure established by this Code for the physical and legal persons for the relevant designated use are recognized as the Lands of Industry, Transport, Communications, Energy, Defense and other purposes.

The protection of lands includes a system of legal, organizational, economic and other measures aimed at the protection of the land as the part of the natural environment, rational land use, prevention of the unjustified land withdrawals from agricultural and forestry turnover, protection from harmful anthropogenic influences, as well as restoring and increasing fertility of the soils, productivity of lands allocated for agricultural and forestry purposes.

The protection of land is carried out by the owners of land plots and land users in accordance with the norms and requirements established by this Code and legislation on environmental protection.

Land plots for the construction of industrial enterprises, housing and utilities facilities, railways and auto roads, gas stations, fuel and lubricants storages, power transmission lines and main pipelines, as well as for the other non-agricultural needs are usually allocated from non-agricultural land or lands not suitable for agriculture purposes.

A land plot used for the servicing a of dwelling house and maintaining a personal subsidiary farm is not subject to a withdrawal for state, municipal and public needs. The land plot, which is in the common share ownership of the owners of residential and (or) non-residential premises in an apartment building, is not subject to a withdrawal for state and public needs.

For the state and public needs, it is allowed to withdraw (buyout) land in accordance with the Chapter 11 of the Land Code of the Kyrgyz Republic. The withdrawal (redemption) of a land plot for state and public needs may be carried out on the basis of an agreement between the authorized body and the owner of the land plot or land user. In the event of disagreement between the owner of a land plot or a land user with the withdrawal (buyout) or its terms, the authorized body has the

right to appeal to the court within two months for a forfeit (redemption) of the land plot from the moment of the receipt of the refusal. Before the court makes a decision on the withdrawal (redemption) of a land plot, the owner of the land plot or the land user is entitled to exercise their rights to the land plot and to make the necessary expenses ensuring the use of the land plot in accordance with its intended purpose. The owner of the land plot or the land user bears the risk of attributing to them the costs and losses associated with the new construction, expansion or reconstruction of buildings and structures in the specified period.

When determining the redemption price of a land plot, one must include the market value of the right to a land plot and the buildings and structures located on the plot, as well as losses caused to the owner or the land user in connection with the termination of the right to a land plot, including losses associated with the early termination of obligations to third parties or persons.

If a land plot is withdrawn for the state or public needs with the consent of the owner of a land plot or the land user, another land plot may be granted to the land owner/user, with the offset of the cost of the right to it in the redemption price.

- The Water Code of the Kyrgyz Republic as of January 12, 2005 No. 8 (as amended on June 14, 2016)

This Code regulates the water relations in the sphere of use, protection and the development of water resources for guaranteed, sufficient and safe water supply to the population of the Kyrgyz Republic, environmental protection and the insurance of the rational development of the republic's water fund. In accordance with the Article 4 "Water resources of the Kyrgyz Republic are the exclusive and inalienable property of the state. Everyone has the right to use water resources within the state border, in accordance with the provisions of this Code. "

- The law of the Kyrgyz Republic No. 53 as of June 16, 1999 "On Environmental Protection" (with the amendments and additions as of July 25, 2016).

The procedure and requirements for the use of natural resources are established by this Law, along with the other sectoral nature and resource normative legal acts of the Kyrgyz Republic.

The law specifies that nature and its components are the national property of Kyrgyzstan, one of the main factors of its sustainable socio-economic development, and also determines the policy and regulates legal relations in the field of nature management and environmental protection in the Kyrgyz Republic.

The law regulates that the land and its subsoil, soil cover, water, forests, flora, fauna and their genetic fund, atmospheric air, other natural objects, and other natural resources as well as natural complexes and ecological systems, the climate, the ozone layer of the Earth and the Earth as a planet in general are subject to a protection from pollution, damage, depletion, destruction, demolition and other negative impacts.

In order to establish the maximum permissible impact standards on environment, the measurement of the environment status is performed.

The measurement of the quality of the environment is a system of norms and standards of environmental quality, developed on the basis of international conventions and agreements, taking into account the latest achievements of science.

Norms for the quality of the environment, the maximum permissible harmful effects, as well as the methods for determining them, are approved by the republican state environmental protection and health authorities of the Kyrgyz Republic upon the agreement with other specially authorized state bodies in accordance with their competence.

- Law of the Kyrgyz Republic No. 53 of June 20, 2001 "On the Protection and the Use of Flora" (as amended and supplemented as of July 25, 2016). Article 6 of the Law "On the Protection and the Use of Flora" that obliges individuals and legal entities:

● to comply with the requirements for the protection and the use of flora objects established by legislation and other regulatory legal acts;

● do not allow the deterioration of the vegetation environment, observe nature protection technologies when collecting and harvesting wild growing plant material;

● do not allow to violate the integrity of natural plant communities, contribute to the conservation of their species diversity, increase the productivity of the grass stand (tree stand), seeds, fruits, and other products;

● to prevent the deterioration of other natural resources;

● do not violate the rights of land tenants, other temporary users, as well as adjacent users of flora objects;

● to fulfill other requirements for the protection and rational use of flora objects stipulated in the legislation of the Kyrgyz Republic. "

- The law of the Kyrgyz Republic of June 17, 1999 No. 59 "On Fauna" (with the amendments and additions as of March 22, 2016).

In accordance with the Article 18 "When carrying out state environmental expertise of construction and reconstruction projects (expansion, technical retooling and upgrading) of enterprises, facilities and other objects, the introduction of the new equipment, technology, materials and substances, their impact on the state of wildlife objects, migration routes and conditions of reproduction of animals is taken into account on an obligatory basis.

Places of location of enterprises, facilities and other objects, as well as the introduction of new equipment, technology, materials, and substances that affect the state of fauna objects, are coordinated with the Republican State Environmental Protection Agency of the Kyrgyz Republic.

- The law of the Kyrgyz Republic dated May 3, 2011 No. 18 "On Specially Protected Natural Territories" (as amended on 02.07.2015)

The law regulates the relations in the sphere of organization and management, protection and use, as well as the performance of control over specially protected natural territories in order to preserve reference and unique natural complexes, objects, remarkable natural formations, the genetic fund of animals and plants, the study of natural processes in the biosphere and the monitoring of changes in its condition.

In accordance with the classification adopted by the International Union for the Protection of Nature (IUPN), the Specially Protected Natural Territories (SPNT) of the Republic fall into 4 following categories:

I category – natural reserves, where any economic and other activities that violate the inherent development of natural complexes are prohibited;

II category - national nature parks in which a differentiated regime for nature protection (reserved, recreation areas, etc.) and the use of natural complexes is established;

III category - natural monuments or geological reserves;

IV category – wildlife sanctuaries, which are created for the protection of individual components of natural complexes.

- The Law of the Kyrgyz Republic "On the Production and Consumption Wastes" of November 13, 2001 N 89 defines the state policy in the field of management of production and consumption wastes and is designed to help prevent the negative impact of production and consumption wastes on the environment and human health when handling them, and as well as the maximum involvement in the economic circulation as an additional source of raw materials.

Each of these normative legal acts regulates some aspects of the requirements in the field of rational use of natural resources, including the assessment of the impact on the environmental at the stages of construction and operation of industrial facilities. Defines responsibility for the violations in the field of ecology and compensation, in the event of damage caused to natural resources and human health.

- The law of the Kyrgyz Republic No. 54 of June 16, 1999 "On Environmental Expertise" (with the amendments and additions as of May 4, 2015).

The law regulates the relations in the field of environmental expertise and is aimed at the implementation of the constitutional right of the citizens of the Kyrgyz Republic to a favorable environment by means of prevention of the negative impacts of economic and other activities on the environment, and also in this part provides for environmental safety.

According to this law, the state and public environmental assessments is applicable in the Kyrgyz Republic. The implementation of the planned activities without a positive conclusion of the state environmental assessment is not allowed.

- The law of the Kyrgyz Republic No. 91 of July 26, 1999 "On the Protection and the Use of Historical and Cultural Heritage" (with the amendments and additions as of March 20, 2015).

In accordance with the Article 23, the land plots that are subject to economic development are the objects of historical and cultural expertise. Historical and cultural expertise is carried out before the approval of town planning regulations and the beginning of land management, land, construction, land reclamation and economic works, the implementation of which may pose a direct or indirect threat to the preservation of the object of historical and cultural heritage or the violation of the rules for their protection.

The first paragraph of the Article 32 obliges economic entities to conduct an archaeological survey for the presence or absence of objects of historical and cultural heritage in the course of construction, road works or the development of virgin lands, the development of quarries or the erection of dams leading to flooding or significant changes in the landscape, at the stage of engineering survey work and in the case of the transfer (transformation) of the land.

- Law of the Kyrgyz Republic No. 151 of May 8, 2009 "General technical regulation on ensuring the environmental safety in the Kyrgyz Republic" (with the amendments and additions from 01.03.2012).

This Law is applied for the purpose of the protection of the environment, defines the main provisions of technical regulation in the field of environmental safety and establishes general requirements to ensure the environmental safety in the course of the design stage and the implementation of activities at the objects of economic and other activities for the purposes of production, storage, transportation and disposal of products.

The Digital CASA-the KR project is not included in the list provided in Appendix 1 of this Law on the basis of the type of activity.

The assessment of compliance with the requirements of environmental safety on the territory of the Kyrgyz Republic is mandatory for planned objects of economic and other activities in accordance with the Appendix 1 to the present Law and for operating objects of economic and other activities having a hazard category in accordance with Appendix 2 to the present Law.

The Digital CASA-the KR project is not included in the list provided in the Appendix 1 of this Law due to its type of activity.

In order to determine the mandatory nature of the state environmental assessment, in accordance with the requirements of Appendix 2 of the General Technical Regulations for Ensuring Environmental Safety in the Kyrgyz Republic, it is necessary to determine the category of the hazard of the Digital CASA project, which is determined depending on the amount of pollution of the environment, the quantity and types of composition of harmful substances emitted into the atmosphere, discharged onto the terrain or water bodies, as well as the waste placed. The category of danger is determined by a specially authorized state body for environmental protection - the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic.

Depending on the hazard category, the scope and content of environmental management projects, the frequency of Compliance Oversight in the implementation of state control over the observance of environmental legislation and established norms, is determined.

At this stage of project preparation, it is not possible to fulfill this because of the lack of information on the specific activities and places envisaged by the project, but at the subsequent stages of the development of project documentation, it is necessary to make the appropriate calculations.

- The decree of the Government of the Kyrgyz Republic of February 13, 2015 No. 60 "On the approval of the Regulation on the procedure for environmental impact assessment in the Kyrgyz Republic"

The Regulation on the procedure for conducting an environmental impact assessment in the Kyrgyz Republic establishes the procedure for conducting an impact assessment of the proposed activity on the environment (hereinafter referred to as - EIA).

The purpose of the EIA is to prevent and / or mitigate the impact of the proposed activity on the environment and the social, economic and other consequences associated with it.

The planned activities carried out within the framework of The Digital CASA-the KR project are not included in the list of economic activities subject to environmental impact assessment in accordance with Appendix 1 to the Regulation on the Procedure for Conducting Environmental Impact Assessment in the Kyrgyz Republic. Therefore, there is no need to conduct an EIA for the Digital CASA -the KR project.

2.1. The Applicable Safeguard Policy of the World Bank

A preliminary assessment of the environmental and social impact of the Digital CASA- the KR project showed that moderate and minor negative environmental and social consequences and risks are expected; in addition, due to the fact that the World Bank has already implemented similar projects, this project was classified by the World Bank as Project of category B.

Table 2.1.1.

The applicable Safeguard Policies of the World Bank and their influence on the Project

Safety Policy	Applicability	Explanatory Text
Environmental Assessment OP / BP 4.01	YES	Digital CASA-the KR and its subprojects. Most of the Digital CASA budget of the Kyrgyz Republic will be used to finance the implementation of Components 1 and 2. Of all the activities included in these Components, only some activities can have negative environmental and social consequences. Such activities include the installation of communications networks and the construction or repair of small buildings and constructions. It is assumed that adverse environmental and social consequences and risks are possible during the implementation of sub projects, including the three activities mentioned above, which may have a small or medium rate with a predominance of the first; are local; short-term; are reversible; controlled or mitigated by means of generally accessible measures. Chapter 4 analyzes the potential environmental and social impacts and risks of the Project. Chapter 5. 4. description of the Process of environmental and social

Safety Policy	Applicability	Explanatory Text
		management implemented by the PMU of Digital CASA-the KR project and its sub-projects has been provided.
Natural habitat OP / BP 4.04	NO	It is assumed that all the activities of the Project will be carried out on the "lands categorized as the lands for industry, transport, communications, energy, defense and other purposes[2]" on the existing or planned roads; above all, the existing buildings and structures will be used It is planned that in case of the need to build new communication complexes, these facilities will be built on the public lands in urban or rural areas. Therefore, it is assumed that the project will not interfere with the natural habitat.
Forests OP / BP 4.36	NO	The project does not involve the use of forest land from the forest fund and forest-covered land.
Pest management OP 4.09	NO	The project does not intend the use pesticides.
Indigenous peoples OP / BP 4.10	NO	There are no indigenous peoples settled in the area of implementation of the Project.[3].
Physical Cultural Resources OP/BP 4.11	NO	The route of FOCL laying, will pass along the existing or planned roads in the exclusion zone. This approach avoids the risks of impact on objects of tangible and intangible cultural heritage in the part related to the construction activities of the project. However, in order to ensure that appropriate measures are taken in the case if construction work will be performed in the vicinity of cultural heritage sites, it is necessary to assess the area planned for the laying of the fiber optic communication lines at the design stage to identify the sites of historical and cultural value near the line of work.
Involuntary Resettlement OP/BP 4.12	YES	When laying out the fiber-optic communication lines, there is a risk of a partial loss of production assets (commercial pavilions and fruit trees, decorative vegetation), and temporary restriction of access to commercial and government institutions, as well as disputes to residential properties. The Resettlement Policy Framework (RPF) of the Project takes these consequences into account, and also provides guidelines

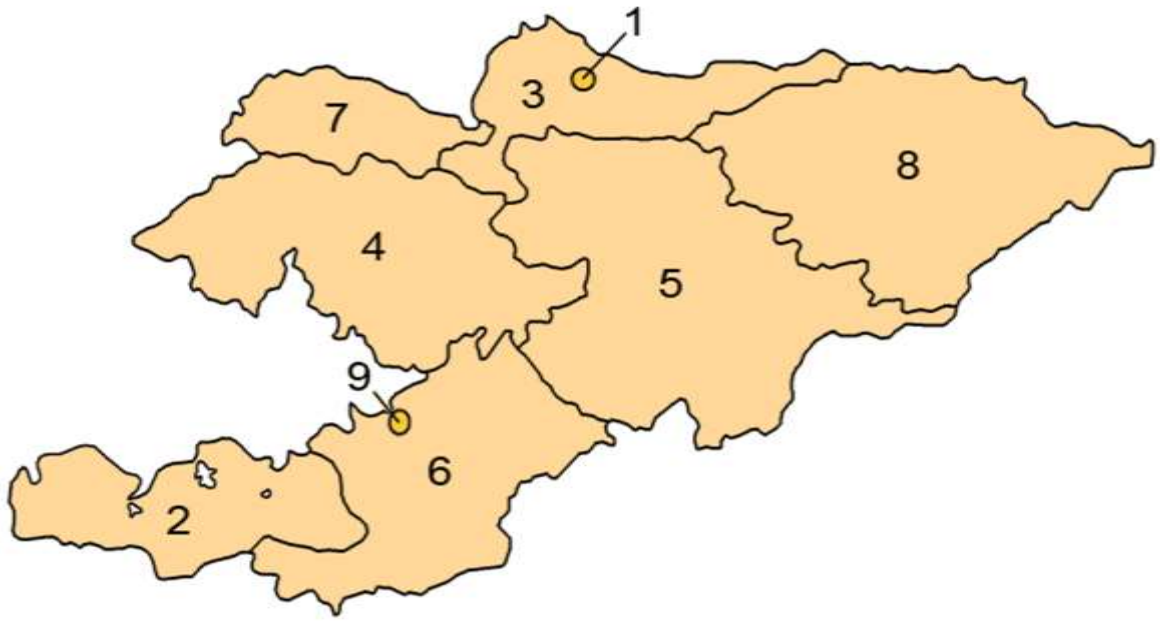
[2] This definition of the land category is given in the Land Code of the Kyrgyz Republic

[3] **The indigenous communities,** peoples and nations are those that, having historical continuity with the communities that have existed before the conquest or colonization, developing on their own territories, consider themselves different from other sectors of society that prevail now in these territories or parts thereof. At present they form the non-dominant parts of society and are determined to preserve, develop and transmit to the future generations their ethnic identity as the basis of their continued existence as a people, in accordance with their cultural characteristics, social institutions and legal systems. The definition was proposed by the Special Rapporteur of the UN Subcommission on the Prevention of Discrimination and Protection of Minorities, José Marínez Cobo (Martinez Cobo 1986).

Safety Policy	Applicability	Explanatory Text
		and procedures for the preparation of the local resettlement plans that will be required for the sub-projects of FOCL laying. The expected consequences of the resettlement of the planned sub projects are likely to be insignificant in accordance with the definition set forth in the World Bank's operational policy on resettlement (OP 4.12), since "... the affected people are not physically displaced and less than 10 percent of their productive assets are lost (OP 4.12, page 7) 4.12, page 7).
Safety of Dams OP/BP 4.37	NO	The project does not envisage the construction, reconstruction or modernization of dams
Projects on International Waterways OP/BP 7.50	NO	The project will not be implemented in international waters.
Projects in Disputed Areas OP/BP 7.60	NO	The project will not be implemented in the disputed areas

3. THE ECOLOGICAL AND SOCIAL CHARACTERISTICS OF THE KR

This section describes the socio-economic and environmental factors throughout the entire Kyrgyz Republic territory, with a division into the seven districts shown in Figure 3.1.



1. City of Bishkek
2. Batken Oblast
3. The Chui oblast
4. Jalal-Abad Oblast
5. Naryn oblast
6. Osh Oblast
7. Talas Oblast
8. The Issyk-Kul oblast
9. The city of Osh

Figure 3.1. Administrative division of the Kyrgyz Republic[4]

Due to the fact that at the time of the development of this document, there are no precise coordinates for the FOCL route, but the implementation of the project components is planned throughout the country, this section provides general characteristics of the socio-cultural environment of the Kyrgyz Republic as a whole, as well as the natural and climatic characteristic of each oblast/region of the KR.

This section is based on the data from the report of the National Statistical Committee of the Kyrgyz Republic "Socio-Economic Situation of the Kyrgyz Republic, 2015" (at the time of the preparation of this document it is the last officially published report by the National Statistical

[4]Source: Kyrgyzstan_provinces_map.png

Committee of the Kyrgyz Republic) and on the reports of international organizations. To describe the climate characteristics and the potential emergency situations (environmental factors) that may affect the project implementation, we used the data of the Ministry for Emergency Situations of the Kyrgyz Republic and the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic.

3.1. Socio-economic characteristics

Demographic situation. The number of the residential population of the republic in year 2015 increased by 113.5 thousand people, or that is by 1.9 percent and as of December 1, 2015 it mounted to 6 million 9 thousand people.

The population of Kyrgyzstan[5] unites the representatives of more than 80 ethnic groups. The largest part of the population (as of January 1, 2016) is the indigenous population - Kyrgyz - 73%, Russians - 6.2%, Uzbeks - 14.5%, Dungans constitute 1.1% of the population, Tajiks and Uighurs 0.9, Turks - 0,7, and Kazakhs – 0,6.

In January-November of year 2015. 3,3 thousand individuals arrived to the republic for a permanent residence, 7.3 thousand left the country, the migration outflow of the population comprised -4 thousand people (-7,3 thousand - in January-November 2014). As before, there was a tendency to reduce both external and internal migration of the population. The volume of the migration outflow of the population in comparison with the same period of 2014 has decreased almost 2 times. Similar to the previous periods, the residents of the Chui oblast and Bishkek city are the most active members of the migration processes. The intensity of outward migration from these regions exceeded the average republican departure figure by more than 2 times and amounted to 25-26 people per 10 thousand residents.

Economics[6]. The main branches of the economy of the Kyrgyz Republic are: agriculture, industry, construction, trade, services, tourism, transport and communications.

Kyrgyzstan can be described more as an agrarian country, since more than half of the population is employed in this sector, and it is agriculture, despite the decline in the global economy, that continues to develop dynamically and to increase volumes. The bulk of the production of agricultural products (about 95 percent) is due to private farms. The most important branches of agricultural production are livestock (cattle breeding, poultry farming, pig farming), agriculture

[5]https://ru.sputnik.kg/Kyrgyzstan/20150711/1016664839.html.
[6]http://www.kg.spinform.ru/ekonomics.html

(production of cotton, fruits, vegetables, cereals, nuts, berries).

Communication services. Communication services amounted to 28962.4 million soms, or 106.6 percent to the level of 2013. In the total volume of telecommunications services, the revenues received from the main activity of telecom operators amounted to over 89 percent or 25903.1 million Som.

Out of the total volume of telecom services from the principal activities, 21815.8 million Som, or more than 84 percent, are mobile cellular services, 2,382 million soms (over 9 percent) are for providing access to the Internet[7].

Access to the Internet[8]. The Kyrgyz Republic with the IDI indicator of 3.78 in 2013 is located below the global average indicator of 4.773[9].

In terms of the network availability indicator, according to the Global Information Technology Report (GITR), the Kyrgyz Republic lags behind Russia and Kazakhstan.

The Kyrgyz Republic ranks 108 out of 166 countries in terms of the ICT IDI indicator of the ITU Association and 98th out of 143 countries according to the latest data on the network availability indicator from the GITR report.

The capacity of the external channels of the Kyrgyz Republic is comparable to the level of Tajikistan, there is an extremely low volume of Internet traffic originating from the country, as well as an insufficient level of participation in the Internet. One of the reasons for this may be the high cost of using the capacity of external data transmission channels in the Kyrgyz Republic, especially in comparison with Kazakhstan and Russia.

In Kyrgyzstan, access to the Internet is faster than entry. The key indicator of the development of any Internet environment is the percentage of the population using the Internet. In Kyrgyzstan, about 25% of the citizens of the Kyrgyz Republic are connected to the Internet, and only 20% of the population are Internet users. 75% of the country's population is not provided with Internet access. This indicator is lower than in neighboring countries, such as Kazakhstan and Russia.

According to experts, 50% of the population of the Kyrgyz Republic is currently covered by the 3G mobile broadband network. However, only 20% of the population are Internet users, and overwhelmingly they are represented by mobile subscribers.

External channels of communication are extremely important for countries with the developing

[7]Department of Consumer Market Statistics, source: http://www.stat.kg/ru/news/o-sostoyanii-sfery-uslug-kyrgyzskoj-respubliki-v-2014g/

[8]The materials of the report "Assessment of the Internet environment of the Kyrgyz Republic", Society Internet are used (Internet Society, ISOC), source: http://www.nisi.kg/ru-analytics-1628

[9]Report MIS 2014, ITU

Internet systems. According to experts, 80% of Internet traffic in the Kyrgyz Republic is external traffic, and internal traffic comprises - 20%. These figures show that access to the Internet depends on the quality and cost of communication with the outside world.

To address the issues of the development of the country, the Government of the Kyrgyz Republic is developing a draft Strategy 2040, on the basis of which the work will begin to prepare the medium-term Development Program of the Kyrgyz Republic for 2018-2022. The authorities of Kyrgyzstan presented the national project of development of the state through high technical technologies "Taza Coom" ("Clean Society") tothe international community and donor organizations, in Bishkek on May As it was noted, this project is an integral part of the National Sustainable Development Strategy (NSSD) until 2040. "The main core of the Taza Coom project is the Digital CASA project aimed at the creation of a regional cross-border broadband telecommunications network to improve Internet connectivity in Central Asia and parts of South Asia," said Sooronbai Jeenbekov[10].

The World Bank's program on the digital development in Central and South Asia, supporting the Government of the Kyrgyz Republic, intends to connect the region to global Internet communications. In order to reach the goal, Kyrgyzstan and other countries in the region should become a transit hub between Europe and Asia.

The implementation of the Digital CASA project is planned to begin already in the fall of 2017. The pilot countries will be Afghanistan and Kyrgyzstan. The financing of the project in Afghanistan has already been determined - $ 90 million will be allocated to the country. There is no a definite answer from the World Bank for financing Kyrgyzstan. It is known that the minimum amount of funding for Digital CASA in Kyrgyzstan can be $ 20 million, and the maximum amount - $ 50 million[11].

3.2. Ecological characteristics

When designing and building fiber-optic communication lines, the following parameters should be considered: maximum, minimum and average temperatures; surface pattern, hydrography of the territory, meteorological natural phenomena (landslides, mudslides, earthquakes, etc.). In addition, it is necessary to pay attention to the areas of the development of hazardous natural processes on the roads on the territory of the FOCL construction route.

3.2.1. Chui Oblast

[10]https://rus.azattyk.org/a/28519936.html
[11]http://zanoza.kg/doc/358090_digital_casa._kogda_v_kyrgyzstane_poiavitsia_bystryy_i_deshevyy_internet.html

Surface Pattern.The territory occupied by the Chui oblast includes the low-mountainous Chui, as well as the Suusamyr and Chon-Kemin intermontane depressions. Surface pattern is dissected, the absolute height varies from 550 to 4856 m above the sea level.

The Chu Valley is the most extensive depression amongst them - in the west and in the middle part it is an almost flat plain, with noticeable slopes noted only near the foothills of the Kyrgyz Ala-Too and in the east, where it is enclosed by the spurs of the Kyrgyz ridge and Zailiysky Ala-Too. The territory of the region is mainly the flat left bank of the river of Chu (about 7 thousand km2), located at an altitude of 550 to 1300 m. The plain has a slight slope, mainly to the north-west. Its surface is slightly wavy in some parts due to ridges, beams, ravines and river valleys. A strip of wedging and shallow groundwater flow is traced along the southern edge of the plain. Above there is a strip of piedmont plume 5-15 km wide, whose surface is inclined to the north, and a range of low rises. To the south there is a second, higher ridge, separated from the first Orto-Alysh depression (the length up to 30 km, width 3-6 km). A small flat area on the right bank of the river of Chu in the eastern part of the Chui Valley (Kichi-Kemin Valley) is a combination of the foothill belt at the foot of the spurs of the Zailiisky Range and the Kichi-Kemin outflow cones and tributaries of the Chu River.

Hydrographic characteristics. The hydrographic network of the Chui oblast is made of the basins of the Chu and Naryn rivers. The length of the river Chu within the borders of Kyrgyzstan comprises 221 km. Below the merge with its right tributary the River of Chon-Kemin (length 110 km) the average long-term consumption of the river Chu comprises 53 m3 /s. From the northern slope of the Kyrgyz ridge to the Chui valley, numerous rivers are flowing, the largest of which are Kegety, Issyk Ata, Alamedin, Ala-Archa, Sokuluk, Ak-Suu, Kara-Balta, whose waters are fully used for the irrigation and practically do not reache the River of Chu. To the basin of the river of Naryn belong the rivers of the Suusamyr valley (the Suusamyr river and the Western Karakol river).

Climate. The Chui Valley belongs to Northern and Northern-Western Kyrgyzstan in the terms of climate zoning.

The amount of precipitation falling in the warm period increases from 53-60% in the lower zone up to 70% in the foothills. The warmest period of the year with an average daily air temperature above 10º lasts at an altitude of 600-800 m above the sea level up to 185-190 days, and frost-free up to 174-186 days. The average July temperature is 23 ... 25º in the lower zone, 18 ... 25º in the foothills 8…9º above zero at an altitude of about 3000 m above sea level.

Earthquakes Earthquakes, in addition to the direct impact on buildings, structures, communications, are often accompanied by the secondary impacts, such as landslides,

avalanches, rock falls, dam lake formations, dam damages, fires and other phenomena.

Within the Chui-Talas region, an increase in the level of seismic hazard is possible in years 2015-2016. With a subsequent decline in years 2017-2018,and a new rise in year 2019 with $K_{R=}15$.

Landslides. In Chui oblast, the most dangerous areas for the landslide and avalanche processes to occur are:

- - landslide- avalanche section "Gallery" on 115 km of the Bishkek-Torugart road in the Boom gorge (a threat to the auto road and the Bishkek-Balykchy railway). The activation is most likely to occur from March to May months;
- the Kapchagai slope site on 13 km of the Kemin-Shabdan highway with the greatest probability of landslides during the spring and summer rains;
- a dangerous landslide area on 86-87 km of the Bishkek-Osh road with a likely activation in March-April, and also after heavy rains in summer;

Rock falls and avalanches. The rockfalls and avalanche processes are developed in the mountain framework of the Chui basin threaten mainly the auto roads and power transmission lines in the valleys of Kichi-Kemin, Chon-Kemin, Kyzyl-Suu, Shamshy, Kegeti, Issyk-Ata, Alamedin, Ala-Archa, Sokuluk, Ak-Suu , The Bishkek-Balykchy railway (in the Boom gorge), various recreation centers. The causes for the landslides can be earthquakes, heavy rains, active snowmelting, the pruning of slopes during construction activities. On the auto roads it is recommended to monitor the mountain slopes and to perform preventive frills, as well as the construction of protective structures, if necessary.

Mudflows and river floodings. The reason for the formation of mudflows here is the breakthroughs in mountain lakes, torrential rains, snowmelt, moistening of **the** mudflowing deposits with meltwaters. In July-August, in the valleys of this group, large floods can occur, caused by the breakthroughs in high-mountain lakes. Most likely their passage in the valleys of Kyzyl-Suu, Tuyuk-Issyk-Ata, Issyk-Ata, Shamshy, Kegeti, Nooruz, Ala-Archa, Sokuluk, Jardy-Kaindy, Konorchek, Zhylamysh, Chon-Kemin, Suusamyr can occur.

The most probable time of passage of mudflows and floods (April-June) is associated with the periods of snowmelt and rainfall in the valleys of the northern slope of Kungei Ala-Too (left tributaries of Chon-Kemin), Kirti-Tabylga, Beishek, Jel-Aryk, Taldy- Bulak, Burkut, Bordu, Chon-Almaly, Kichi-Almaly, Taldy-Bulak Shamsinskiy, Burana, Taldy-Bulak Kegetsky, Arpa-Tektir, Alamedin, Konok, Zhylamysh, Kara-Suu, Chon-Temen-Suu, Jardi- Kara-Balta, Chon-Kaiyndy, Cholok-Kaiyndy, Koktu-Bulak, Taldy-Bulak, Aspara.

The repeatability of mudflows caused by rainfalls in all foothill and mid-mountain zones of the region is 1 or more times a year. The mud flow danger period is March-September.

During the period from March to June, the activation of suspended streams is possible, the floods caused the presence of these streams are expected in the foothill valleys of the interfluves of Shamshy, Kegeti, Tuyuk syskatynsky, in the valleys of the Serafim anticline (Bektoo) and in the Pospeldek, Chon-Aryk uplifts, in the valleys of foothills of interfluves of Ala-Archa-Zhylamysh-Sokuluk-Ak-Suu-Kara-Balta.

Flooding. In Chui oblast, the processes of flooding of the territory are most widely represented in comparison with the other regions of the republic. Areas with a depth of groundwater below 3 meters span the sublatitudinally elongated zone north of the Big Chui Canal and the Chaldybar-Tokmok auto road, where in unfavorable conditions are located many settlements and territories for agricultural purposes.

Flora. The Chui Valley and the northern slope of the Kyrgyz ridge are one of the most well studied regions of the Republic in flora-geobotanical respect.

The vegetation cover, depending on the prevalence of various plants under different moisture conditions, is represented by sheep fescue, mixed fescue, mixed bluegrass, mixed steppe rabit, karyndyzovo and angleton blue stems and other grasses; the vegetation has a pronounced altitudinal zonality. In the moist steppe zone grow predominantly reed thickets, sedges, reeds, etc.

The main steppe territories on the plains of the Chui basin are developed for agriculture. Their natural areas are preserved in the rocky places unfavorable for agriculture.

At the level of ground waters higher than in the other areas, in the line of water outcrop and in the floodplain of the Chui River sazes – marshes are formed.

The fauna of the Chui Valley is a part of the West-Tenir-Too zoogeographical region. Here, according to the data of experts, more than 300 species of vertebrates reside including more than 15 species of fish, about 280 species of birds, 50 species of mammals. The densely populated plains of the Chui Valley are mostly assimilated, the natural landscape is heavily modified, so the number of animals is decreasing every year.

The most part of the plain is plowed and developed, due to this reason many birds lost the palace of their natural habitat and settled in other areas. In the steppe zone out of reptiles one can encounter lizards, snakes, vipers, a copperhead shake, slides, etc. In the river valleys reside many species of birds: sky larks, white and long-tailed pheasants, cane tree creepers, bearded tits, robin redbreasts, nightingales, thrushes/blackbirds, pigeons, Indian starlings, night bats, hoopoes, chukar partridges, partridges, golden eagles, bearded vultures, etc.

Conclusions: When planning and carrying out works on laying out the fiber optic communication

links in the Chui oblast, it is necessary to pay attention to the processes of flooding of the territory, which here are most widely represented here in comparison with other the regions of the republic. The depth of the occurrence of groundwater in some places reaches less than 1 meter.

3.2.2. Jalal-Abad Oblast

The Surface Pattern of the Jalal-Abad region has a complex structure, the amplitude of altitude marks varies from 500 to 4500 m. In the surface pattern there are weakly inclined foothill plains, adyrs, intermontane depressions, medium-altitude and high mountain ranges. In the Surface Pattern between the adyrs and spurs of the mountains there are intermontane depressions (from 900 to 3000 m above sea level). The middle altitude mountains are represented as separate mountain ranges, as well as by continuous mountain massifs. The high mountain region (from 3000 m above the sea level) is characterized by a dense network of deep and narrow mountain valleys with steep slopes, rocks, rocky debris and slide rocks

Hydrographic characteristics. The Naryn River flows through the territory of the region, which gives 31% of the total surface runoff of the republic's rivers. Of great importance are the rivers of Kara-Darya, Kyok-Art, Kara-Unkur, Chatkal, Padysha-Ata, Mailuu-Suu, Changet, Tentek-Sai, Kara-Suu, they irrigate the substantial parts of land. The rivers of the Fergana and Chatkal ranges, mostly snow-glacial and snow-fed, are characterized by early spring floods. On the territory of the region for the rational use of water resources, a network of reservoirs has been created, and channels have been built.

Climate. The Jalal-Abad Oblast is the part of the Climate District of South-Western Kyrgyzstan, which is the warmest and most humid region in the republic. Unlike in other regions, during the cold period of the year, a significant amount of precipitation falls under the influence of the southern cyclones.

The average July temperature in the lower zone is 25 ...27º, in the foothills 22…23º, in the altitudes 2500-3000 m above the sea level. 10…12º above zero; The average maximum in the lower zone is 31…34º, in the foothills 26…31, at altitudes from 2500 up to 3000 m 15…17º. The average maximum in the lower zone is 39…43º, in the foothills 35…40º.

Earthquakes. According to the Institute of Seismology of the NAS of the KR in the Gissar-Kokshala zone of southern Kyrgyzstan, the level of seismicity can be increased in early 2016, and the next phase of strong earthquakes may be observed in the period of years 2018-2021. With KR = 13.6-15.0 with a shaking rate of I = 6-8 points.

84. The most dangerous in the territory of Southern Kyrgyzstan (the border zone of the Batken and Osh regions with Tajikistan and China) in the next 3 years are the ROZs located within the

Gissaro-Kokshaal seismic fault, where can occur seismic catastrophes with a shaking of 7-9 scores in the years 2016-2017. (+1 year)

Landslides The landslide areas of the Jalal-Abad Oblast are concentrated mainly on the periphery in the low mountains and on their transition to the middle-mountainous altitude zones in the south-western spurs of the Fergana Range. Landslide massifs are also present in the Ketmen-Tube intermontane depression in the north-eastern part of the region.

Active landslides are mainly concentrated in the valleys and interfluve of the rivers Kyok-Art and Kara-Unkur, in the area of the resort of Jalal-Abad, in the towns of Mailuu-Suu, Kok-Zhangak, Tash-Kumyr and in the basin of the river of Kara-Suu -western.

The landslides are developed on the low foothills framing the Sjuren-Tyube ridge along the valleys of the rivers of Kyok-Art, Achy, Act-Took, Changet and others, along the slopes with a steepness of 20-40 °. One of the main factors in the formation of landslides in the basins are atmospheric precipitation and groundwater. The depth of capture of a slope from 1,5 to 15 and more meters.

Mudflows and river floodings. The beginning of mudflow and flooding processes can be expected with the starting of the intensive melting of snow reserves over a large area (March-May); the melting of glaciers and snowfields, anomalous temperatures in the high mountain zone (June-August); precipitation of rainfall; precipitation in the period of high water; the breakthrough of high-mountain lakes and water reservoirs.

The large rivers of the Jalal-Abad oblast Kek-Art, Changet, Tentek-Sai and others have mostly snow-fed input and for them the flooding begins in March, the strongest floods occur when the rains fall during the high water with a maximum in April. In some parts of the rivers the flood flows, saturated with loose friable fragments, can form mudflows. The floods on the mountain rivers are accompanied by increased coastal and bottom erosion, river bed changes, flooding of coastal areas where most of the settlements are located.

Underflooding. In Jalal-Abad Oblast, territories subject to under flooding with groundwater are widespread in the Kugart Valley, Ala-Buka-Karavanska, Ketmen-Tyubensky, Toguz-Toru basins and river valleys.

Areas of high rise of groundwater level are along the river of Kara-Darya and on the northern shore of the Toktogul water reservoir.

The landslides and rock falls occur due to the steepness and shape of the slopes, the fracturing of the rocks, the dismemberment of the surface pattern and the seismic activity of the area.

The greatest danger they can present for the auto roads passing in the narrow mountain valleys of Chychkan and Naryn between the towns of Karakul and Tash-Kumyr.

Flora. In the Jalal-Abad Oblast, the territory of forests, the diversity of ecosystems, flora and fauna are so huge and vast that in order to preserve it, the most extensive network of specially protected areas in the Fergana Valley region has been established, including: 3 reserves, 1 national nature park, 6 forest reserves, 6 botanical reserves, 3 hunting reserves. The total area of the protected territories of Jalal-Abad oblast is 197 thousand hectares:

Sary-Chelek State Reserve

Besh-Aral National Park

Padysh-Ata State Reserve

Fauna. The state of fauna in the protected natural areas of the region is stable and the number of rare species of animals has increased: the Tien Shan bear from 30 to 48 heads, the Turkestan lynx from 15 to 18 bodies, the wild cat from 3 to 8 bodies, deer from 81 to 105. Lack of monitoring of flora and fauna and the interdepartmental disunity led to the fact that complete and reliable data on the biodiversity numbers in the region are absent.

Conclusions: Since it is planned to conduct FOCL laying out works mainly in the warm season (temperature not lower than +10), when planning and carrying out the works on laying the fiber optic communication lines in Jalal-Abad oblast, it is necessary to pay attention to the processes of flooding of the territory, mudflow and flood processes that can be expected with the beginning of the intensive melting of snow reserves over a large area (March-May); melting of glaciers and snowfields, anomalous temperatures in the highland mountainous zone (June-August); precipitations.

3.2.3. Osh oblast

Surface Pattern. Osh oblast occupies the territory of Alay, the northern slopes of the Zaalayskiy, the southeastern part of the Fergana range, which are the eastern frame of the Ferghana Depression. The Alai mountain system has an almost latitudinal strike and is characterized by a relatively gentle northern slope, modified by a series of sharply defined foothill ridges; The southern slope - facing the high-raised Alai depression, is relatively short and steep; The northern slopes of the Zaalaysky Range refer to the highland mountanous zone with absolute elevations from 2200 to 7134 m (Lenin's Peak). The southeastern part of the Fergana Range is characterized by a well-defined zonal structure of the surface pattern. The Fergana basin, which enters its in eastern part into the Osh region, is a flat part with absolute elevations of 800-1000 m, followed by an adyr zone (up to 1500 m), then a zone of high foothills and front ranges (up to 2000 m), and finally a high mountain zone (Up to 3500-5000 m).

Hydrographic characteristics. On the territory of the region there are such large rivers as the Kara-Darya, formed by the confluence of the rivers Tar and Kara-Kulzha. Below the town of Uzgen the river of Kara-Darya flows into the river of Iasi. These rivers originate from the Fergana and Alai ranges. The Gulcha, Ak-Buura and Kyrgyz-Ata rivers begin from the northern slopes of the Alai Range. The Kyzyl-Suu River, originating on the southern slopes of the Alai and northern slopes of the Zaalaysky Range, is the main waterway of the Alai Basin.

Climate. The Osh region, which includes the part of the Fergana Valley, the Alai Valley, the surrounding ranges of the Climate Zoning is attributed to South-West Kyrgyzstan.

The basic maximum of the precipitation falls within March-April period, secondary rainfall is in November, and its minimum is in August-September.

The average temperature in July in the lower zone is 25 ...27°, in the foothills 22…23°, at heights of 2500-3000 m above the sea level 10…12° above zero; The average maximum in the lower zone is 31…34°, in the foothills 26…31, at altitudes from 2500 to 3000 meters 15…17°. The absolute maximum in the lower zone is 39…43°, in the foothills 35…40°.

Earthquakes. According to the Institute of Seismology of the NAS of the Kyrgyz Republic in the Gissar-Kokshala zone of the southern Kyrgyzstan, the seismic activity may be intensfied in the second half of year 2015 - in early 2016, and the next phase of strong earthquakes may be observed in the period 2018-2021. K_R = 13.6-15.0 with a shaking of I = 6-8 scores.

The most dangerous zones in the territory of the Southern Kyrgyzstan (the border zone of the Batken and Osh regions with Tajikistan and China) in the next 3 years are located within the Gissaro-Kokshaal fault, where seismic catastrophes can occur in years 2016-2017. (+1 year) with a shacking of 7-9 scores.

Landslides In the Osh region, the greatest number of landslides was registered on the slopes of the foothill zone of the Alay and partly on the Ferghana ranges (the Iasi River basin). In the basin of the river of Iasi the most landslide dangerous are the right tributaries of Zerger and Nichke; the left tributaries Keldyuk, Kandava, Kara-Taryk. In the basin of the river of Zerger the landslides are developed mainly along the left bank, where there are ancient landslides, which are activated in the high water years The landslides cover the river bed, displacing and destroying the roadbed and farmland. In the Nichke River valley, the left slope is also landslide dangerous, where there are landslide cracks that appeared in year1994. In the valley of the river of Keldyuk landslide dangerous is the left slope with the ancient large landslides. In the valley of the river of Kandava, the left slope in some ares is covered by by landslide cracks with a length of up to 0.3 km. In the basin of the river of Kara-Taryk there is a large number of ancient landslides on the leveled surfaces where settlements are located. In the basin of the river of Kara-Darya the most

dangerous landslidea are located on the left tributaries of the Tar-Buig River, Tokbay-Talaa, Laysuu (Kyzyl-Suu), Karaguz, Jalpak-Tash and on the left slope of the valley of the river of Kara-Darya near the town of Uzgen. Above the middle course of the Buiga River there is a continuous development of ancient landslides, which are annually activated. In the valley of the Tokbay-Talaa river, there are ancient landslides of considerable size. In the valley of the river of Karaguz, the activation of ancient landslides takes place. B The left slope of the Kara-Darya valley over 15 km of ancient landslide with the activation of modern landslides in some areas. In the spring of 1988, a modern landslide with a length and width of about 3 kilometers was formed. The tongue part of the landslide reached the right bank, overlaying for a while the high-water river of Kara-Darya. The top soil road between the town of Uzgen and the settlement of Ylai- Talaa, that passes along the base of the ancient landslide slope, is overlapped annually when the landslide is displaced or covered by a ground mass. Since year 1987, the formation of the large landslides in the valley of the river of Budalik and along the left bank of the river of Gulcha nearby the village of Gulcha has started.

Mudflows and river floodings. The most dangerous valleys are Jylandy, Zerger, Taldyk, Kirk-Kichi, Khoshchan, Jar-Korgon, Shankol.

The turbulent streams of water during the flood period carry with them a large amount of loosely clastic material, which, due to the loss of the current velocity, is deposited in the river beds. This leads to the migration of the river bed, the destruction and flooding of the banks. The same process can occur above the narrowed sections of river beds.

Under flooding. In Osh Oblast, the processes of flooding of territories are observed mainly in the northwestern part of the region, the total area of the under flood territories comprises 150 km^2. The areas of under flooding are formed at the bottoms of the intermountain depressions with a difficult drainage of groundwater: Uzgen-Kurshab, Osh-Karasuy, Aravan, Nookat, Teo-Muyun, Takhtec, and Karavan-Kokjarsky. A dangerous part of the under flooded area is Uzgen-Kurshab, where the area of under flooding has increased in recent years. Raising the level of underground

Rockfalls and landslides are formed on the steep slopes, composed of rocky and semi-rocky massives of hard rocks, broken by differently directed cracks.Often, perilous rockfall areas are the parts of the slopes "cut" during the construction of roads and other structures.

The intensification occurs in the spring after the melting of snow, continous and torrential precipitation and in the event of earthquakes.

Flora. Vegetation is also subject to high altitude zonation. In the north, in the foothills (adyrs), at an altitude of up to 1500 m - wormwood-ephemeral-saltwort semidesert is located. In the high mountainous foothills and on the slopes of low mountains up to 2000 m of height, common

fescue-feather grass steppes with a hairy wheatgrass in the west and onion barley and saryndyz in the east are present. Above, at an altitude of 3000 m, there are juniper forests and woodlands in combination with fescue-feather grass and meadow steppes are located. From the height of 3000 m, subalpine and meadow steppes begin to intersect with rocks. In the east, where there is more precipitation, there are high-mountain meadows in which there is cock's-foot grass, a ram, etc., meadow steppes with onion barley and shrubs are abundant: underbushes of brier, honeysuckle, meadowsweet, red mullet, sea buckthorn. Above is located the forest belt, there are nut-fruit trees (mainly on the slopes of the Fergana Range), maple trees, juniper and spruce forests.At an altitude of 3000 m, appear subalpine meadows and meadow steppes, above which rise rocky ridges and stony slopes. In the south, in the Alai valley, in the lower parts (up to 3000 m), subalpine and alpine meadows, steppes, meadow steppes and high-altitude desert are common.

Fauna. The animal world is diverse: wild boar, roe deer, wolf, fox, brown bear, ermine, badger, porcupine, long-tailed marmot. Among birds species are widely represented: snowcock, chukar, Blue Bird, penduline tit, pheasant, partridge, water ouzel. There are many waterfowl on the lakes in spring and autumn. In lakes and rivers live rainbow trout, osman and marinka. In the highlands are present - mountain goats, archars, yaks and snow leopards.

Conclusions: When planningand carrying out works on the laying out of fiber optic communication links in Osh oblast, it is necessary to pay attention to the mudflow and flood processes in the spring and summer. The most dangerous valleys are Jylandy, Zerger, Taldyk, Kirk-Kichi, Khoshchan, Jar-Korgon, Shankol. And also it is necessary to pay attention to landslide processes. A top soil auto road between the town of Uzgen and the settlement of Ylai-Talaa, passing along the base of the ancient landslide slope, is blocked every year when the landslide is displaced or overlapped by the ground mass.

3.2.4. Batken oblast

Surface Pattern. The territory of the region includes the Batken, Isfara-Isfana, Shakhimardan and Isfayram depressions, as well as the part of the Fergana Valley, which are bounded by the low ridges of Beli-Sinyn, Andygen-Too, Kuruk-Sai, Katran-Too, Kok-Bel. From the south, the region is bounded by the Turkestan and Alai Ridges. Surface pattern strongly dissected, the absolute heights range from 401 to 5,539 m.

Hydrographic characteristics. Hydrographic network belongs to the basin of the river of Syr Darya and has, basically, glacial-snow feeding from the northern slopes of the Alai and Turkestan ranges and adjacent spurs. The main rivers are Ak-Suu, Kara-Suu, Kozy-Baghlan, Isfara, Sokh, Shakhimardan (the highest discharge of the river is 172 m3 / sec in July 1977) and Isfayram-Say

(the highest discharge of the river is 162 m3 / s in July-1945) . The flow of the rivers is partly distributed over the irrigation network and canals, and is also regulated by the off-stream Tert-Gul water storage reservoir. On the northern slopes of the Alai and Turkestan ranges there are mountainioius lakes that recharge the Ak-Suu, Sokh, Shakhimardan and Isfayram-Sai rivers.

Climate of the Batken oblast is of transitional type and varies from the subtropical climate to the climate of temperate latitudes. High air temperatures in the warm season, droughts at the end of summer season, and precipitation in the winter-spring period are the features of the subtropical climate of the continental type; however, the colder winter than in the subtropics is the characteristic of the temperate climate zone. Mountainous territories have a temperate climate zone. The annual amount of rainfall is 140-500 mm. Spring precipitation predominates.

The duration of the warmest period with an average daily temperature above +10° comprises 175-180 days at an altitude of 1100–1200 m; At an altitude of about 2000 m reduces up to 150-155 days; at an altitude of about 2400 m – up to 135 days, At an altitude of about 3000 - up to 45 days. The average temperature in July is 21…22°, and at an altitude of about 2000 meters above the sea level comprises 18…19° degrees above zero. The average maximum temperature is 25…28°, the absolute maximum is 36 ... 37o in the lower zone, 32 ... 33° degrees above zero at an altitude of about 2000 meters above the sea level.

Earthquakes. According to the Institute of Seismology of the NAS of the Kyrgyz Republic in the Gissar-Kokshala zone of southern Kyrgyzstan, seismicity can be intensifed in early 2016, and the next phase of strong earthquakes may be observed in the period of years 2018-2021. K_R = 13.6-15.0 with a shaking of I = 6-8 scores.

Landslides In the Batken region, landslide processes are widespread in the Suluktinsky Basin, in the valley of the Chauwai River, single landslides occur along the valleys of the Isfayram-Sai, Shakhimardan, Sokh and Isfara rivers.

There are about 70 landslides in the Suluktinsky basin, among which the surface landslides predominate.The main factors of the formation are atmospheric precipitation and the influence of groundwater. About 30% of landslides can be attributed as unloaded, the rest are at the different stages of development.

Rockfalls and avalanches are developed in the high-mountainous and medium altitude mountainous areas. hey are caused by the deep dissection of the surface pattern by valleys, a powerful zone of fractured rocks. The collapse of masses of rocks in the form of large blocks and debris in the areas of rock and semi-rock propagation are activated during earthquakes, weathering processes, spring snowmelt and atmospheric precipitation.

Mudflows and river floodings. The most dangerous valleys with the possible occurrence of large

floods, including those caused by the break-througha of the lakes are Isfayram-Say, Ak-Suu-Shahimardan, Sokh, Karavshin-Isfara, Leilek-Ak-Suu. The most probable period for the passage of floods, which occurre as a result of the breakthrough of high-mountain lakes is July-August is (early September).

The dangerous mud flowing period begins in March, covering the warmest part of the year, including September. The most probable time of the passage of mudflows and floods (April-June) is associated with the periods of snowmelt and rainfall. The most dangerous valleys are Sumbula, Kara-Suu, Jangakty, Karakol, Kara-Bulak, Gavian, Kyok-Talaa, Nitschke-Suu (Kyzyl-Kiya), Abshir-Sai.

The mudflows of torrential genesis in this zone are activated in the period from March to June, with the greatest probability in the foothills of the interfluves of Isfayram-Say-Shahimardan-Sokh, Leilek-Ak-Suu, in the Suluktinsky basin.

Under Flooding. In the Batken oblast, the groundwater flooding is developed in small areas, mainly in the northern part.

The areas of under flooding cover the bottoms of small intermountain depressions, such as Batken, Isfara-Lakkanskaya.

The area of territories of under flooding in the region comprises 50 km^2. The under flooding is noted in 18 settlements, including in the town of Batken.

Flora. In the Batken region, the ecosystems of juniper forests have been preserved in Central Asia in the best degree. In the arid and cold mountain conditions, juniper forests prevail here, as well as the high-mountain meadows and glaciers. There are no reserves or natural parks in the region, but there are 4 botanical and 1 geological reserves. **Fauna.** The lack of the monitoring of flora and fauna and the interdepartmental disunity led to the fact that complete and reliable data on the number of biodiversity in the region are absent. At the next stages of the project, it is recommended that research be carried out at the locations of the FOCL route.

Conclusions: When planning and carrying out the works on laying out fiber-optic communication lines in the Batken region, it is necessary to pay attention to the rockfalls and landslide and avalanche processes. It is necessary to provide measures for mudflow processes. The period of mudflow risk starts in March, encompasses the warmest part of the year, including September.

3.2.5. Talas Oblast[12]

Surface Pattern. The territory of the region includes the Talas valley, stretched from the west to the east for 140 km, with the largest width of 26 km, and its mountain range - the ridges Kyrgyz

[12]http://mes.kg/upload/Kniga_2017.pdf

in the north and Talas in the south. The Kyrgyz ridge in the eastern part has a height of about 3600 m, its southern slopes, steeply cutting to the valley of the river of Talas, dissected by gorges of rivers and temporary water streams. In the west of the Kyrgyz ridge fall back the Echkili-Too Range and the Ak-Tash Mountains that are up to 2160 m in height. The northern slopes of the Talas Ridge, with a height of up to 4500 m, are dissected by gorges, forming a wide foothill zone.

Hydrographic characteristics. The main watercourse, the Talas River, is formed by the confluence of the rivers of Karakol and Uch-Koshoy, has numerous tributaries, the main of which are: on the right the river of Ken-Kol, on the left - Besh-Tash, Urmaral, Kyumushtak, Kara-Buura. In the western part there is the river of Kyurkureo basin that is the river of Assa. The rivers have mainly snow and glacial recharge.

The climacteric feature of the Talas valley is a relatively small amount of precipitation and a peculiar distribution of them across the territory. At an altitude of 800-1400 meters above the sea level, the annual precipitation is 220-320 mm, 55-65% of precipitation falls in the warm period. The maximum precipitation is in April-May, the minimum is in August-September.

The duration of the warmest period with an average daily air temperature above 10 in the lower zone is 175-182 days, the duration of the frost-free period is 157-163 days. The average July temperature is 20…22º, the average maximum temperature is 27…30 above zero, the absolute maximum is 37…40 above zero.

Earthquakes. On the territory of Northern Kyrgyzstan, the phase of activation of seismic processes that began in year 2011, according to forecasts of seismologists, is likely to end in year 2016, and the next may occur in the period from years 2018 to 2021 when earthquakes with K_R = 12.5-13.5 are possible with a shaking of I = 6-7 scores.

Within the Chui-Talas region, an increase in the level of seismic hazard is possible in years 2015-2016. With a subsequent decline in years 2017-2018 and a new rise in year 2019 with K_R = 15.

Landslides Talas region coverage by the landslide dangerous zones is the lowest in the country, landslides are not widespread, since the area of the foothill zone is insignificant here.

The landslides in the Talas oblast can be dangerous only for small economic facilities, auto roads, power transmission lines outside the populated areas.

Mudflows and river floodings. The most dangerous valley in this zone is Chirkanak**.**The most probable period of the passage of water floods that occurre as a result of the breakthrough of high-mountain lakes is July-August (early September).

The most dangerous valleys are Kara-Buura-Shilbili-Sai, Beshtash, Kurkuryo-Suu, Suluu-Bakaiyr, Kumyushtak, Kolba, Chon-Chichkan, Bala-Chychkan.

Flooding. In the Talas region, the areas subject to the flooding are concentrated in the central part

of the valley. Some areas of flooded lands are located on alluvial-proluvial plains and in the areas of the settlements of Amanbaevo, Kainar, John-Dyobo, Moldosan, Sulu-Maimak and Maiskoye, and also the rural settlements of Tuyto, Aral and Kepyro-Bazar.

There are 36 settlements and plots in the flooded area, including the town of Talas, the villages of Manas and Pokrovka.

The largest area of flooding occupies the floodplain of the Talas River, low terraces above the floodplain, as well as the estuary parts of the valleys of its lateral tributaries Besh-Tash, Urmaral, Kara-Buura.

The smaller areas of flooding are confined to the bottoms of small intermontane depressions, such as Karakol-Aralskaya, Karakol-Kepyure-Bazarskaya, Uch-Koshoyskaya, Djidezuiskaya, Kyzyl-Kyrgyzstan.

168. Another group of flooding sites is - Kainar-Shekersky, Amanbaevsky, Pokrovsky.

Rockfalls and landslides. The landslide and avalanche processes are actively developing in the mountain frame of the Talas basin. The landslides are dangerous because of their ability to block the bottom of the valleys with debris (for example, the collapse in the Kurgantash valley).

Flora. The landscape of the Talas valley is mainly forme by the meadow and forest areas. In the gorges and along the mouths of the rivers, meadows and especially steppes that frequently occur here strike the observer with its high-mountain wild grasses. The territory is characterized by shrub vegetation: dog rose, hawthorn, barberry, mountain cherry trees.

Fauna. The fauna of the Talas valley is represented by a lot of reptiles: snakes and lizards, which in Kyrgyz language are figuratively called tashbaka - stone frogs. A lot of rodents - jerboa, Tien Shan souslik, in abundant numbers there is hare-Tolai. Of birds, partridge, quail, predator - harrier, owl, buzzard are typical for the Talas valley. As everywhere in Kyrgyzstan there are foxes, wolves. Steppe cats, porcupines, badgers are common in the Talas valley. In the forests there are bears, boars, lynx, from birds there are - juniper barley bird and pheasant. As elsewhere in Kyrgyzstan, the highlands differ from other areas with landscapes as well as with the animal kingdom: ermine and marten, mountain goat and ram. Of the birds for the highlands are typical mountain partridges, rocky pigeon, kestrel, ular, golden eagle, griffon

Conclusions: When planning and carrying out the work of laying out the fiber optic communication links in the Talas region, it is necessary to pay attention to the processes of flooding. There are 36 settlements and plots in the flooded area, including the town of Talas, the villages of Manas and Pokrovka.

3.2.6. Naryn oblast

Surface Pattern. The territory of the region includes: a sublatitudinally extended alternation of high-mountainous (Ak-Sai, Arpin, At-Bashy-Karakoyun, Chatyr-Kola, Son-Kel) and mid-mountain (Djumgal, Kochkor, Min-Kush, Srednenaryn) intermontane depressions, A system consisting of ridges of Moldo-Too, Jumgal-Too, At-Bashi, Jaman-Too, Naryn-Too, Son-Köl Too, Torugart-Too, Kokshaal-Too. The absolute height of the bottoms of the valleys varies: for high-mountain valleys from 3000 to 3800 m, for medium-mountain valleys from 1500 to 2600 m. The average height of ridges varies from 3600 to 4500 m. The dissection of the surface pattern increases from east to west.

Hydrographic characteristics. The main rivers of the region are the rivers of the Syr-Darya basin-the Naryn River, formed by the confluence of the Chon-Naryn and Kichi-Naryn rivers, its left tributaries of the At-Bashy, Terek, Zhaman-Davan, Alabuga, right tributaries of On- Archa, Kekemeren and its tributary the Jumgal River, the rivers of the Chu-Kara-Kujur River Basin, Kochkor, East Seok and East Karakol, the Zhon-Aryk River, the Tarim-Ak-Sai River Basin. On the territory of the region there are two large lakes Son-Köhl and Chatyr-Köl.

Climate. According to the climate zoning, the Naryn region is located in the Inner Tien Shan. Inner Tien Shan is divided into three parts: northern, central and south-eastern.

The duration of the warmest period with an average daily temperature 10° of above zero is 130-135 days. In some years, frosts are observed even in mid-June and at the end of August. The average July temperature is 16°, the average maximum temperature is 24, the absolute maximum is 35 degrees above zero.

Earthquakes. Within the limits of the northern Kyrgyzstan, the phase of activation of seismic processes that began in 2011 is likely to end in year 2016, and the next may occur in the period from 2018 to 2021 when earthquakes with K_R = 12.5-13.5 with shaking I = 6-7 scores.

Landslides In the Naryn region landslide processes are developed in the foothill zones, bordering the bottoms of the intermontane depressions of Atbashyn, Jumgal, Kochkor, Kara-Kudzhur, Alabuga-Naryn, and along the Naryn River valley. Most of the sites have a small and very small degree of coverage

The danger is posed by a large modern landslide, formed in the spring of year 2004 on the right bank of the valley of the river of Tuyuk-Suu near the village of Mink-Kush in Jumgal region with the volume of the unstable rocks of about 600-700 thousand m^3. This landslide at its displacement can form a dam up to 20 meters in height and a dam lake with a volume of 250-300 thousand m3. Active landslides are found on the Kyzyl-Bel pass on the Naryn-Torugart auto road and in the valley of the Min-Kush river.

Mudflows and river floodings. Floods on the rivers with glacier-snow nourishing cover the

warmest part of the year, the greatest water discharge falls on June-August. To this type of the rivers belongs the River of Naryn from the upper reaches to the river of Alabuga, Chon-Naryn, Kichi-Naryn, Ak-Say and its tributaries, East Karakol, Kara-Kujur, Telyok, Joon-Aryk, Chu. On the rivers of the middle mountains zone with snow-glacial type of feeding, the flood period lasts from March to September, the maximums occur during the period of spring snowmelt, with the abundant precipitation. (the rivers of Jaman-Davan, Alabuga, At-Bashy, Naryn in the middle stream, Kekemeren).

The valleys that can undergo the mudflows and water flows are The Uzenyu-Kuush, Jany-Djer, At-Bashi and Tyulek. The most dangerous due to possible breakthrough of high-mountainous lakes in the zone are considered to be the valleys of Buzulgan-Suu-Shamshi, Anyrty-Ukyok western. Kel-Ukyok, Karakum-Kel-Ukyok, Kara-Kungey-Ukyok, Ukyok. The most probable period of flooding inflicted by the breakthrough of the lakes is July-August (early September).

191. The most likely occurrence of such flows in the valleys of the right bank of the river Naryn - Ottuk, Kurtka, Korgon; In the Kochkor depression on the southern slopes of the Kyrgyz ridge; On the rivers of the northern slope of the Kara-Katy Range - Tuz, Chon-Corumdy, Chaloi; On the rivers of the northern slope of the ridge Maldy-Too - Kara-Keche, Cholok-Terek, Kara-Tube, Min-Kush, Chymyndy, Ak-Kul, Tabylgty.

192. In the foothill valleys of the left bank of the Naryn River, the valleys of the foothills of the At-Bashin and Kochkor Depressions, the most likely formation of torrential mudflows is March-June. The activation period covers March-September

Flooding. In the Naryn region, the areas subject to flooding are distributed in the form of narrow stripes along the stream channels of the Naryn, Kara-Kujur, Kochkor, and Jumgal rivers. Flooding is registered in the regional centers of Kochkorka, At-Bashy, Chaek, Baetovo. The total area of flooding in the territory of the Naryn oblast is 450 km2. Flooding is registered in 54 settlements.

Rockfalls and landslides. The activity of avalanching processes increases due to seismic influences and atmospheric precipitation.

Flora. Vertical zonality can be traced on the slopes of the mountains. Zones of mountain deserts and semi-deserts occupy the bottoms of the valleys, their foothills, the coastal strip of the rivers, the low parts of the basin of the Lake of Chatyr-Kul. From the vegetation species predominate wormwoods, in some places there are feather grass, soltwort, ephemerals, there are flood-plain forests. The basin of the Son-Kul Lake and some high-mountain valleys belong to the mountain-steppe zone. In this areas mountain steppes extend with the predominance of feather grass, couch grass, cobresia, wormwood and ephemerals. The slopes of the mountains, surrounding valleys, belong to the subalpine belt. Subalpine meadow grasses are present on the mountain meadow

soils Forests and bushes occupy 3% of the region's territory. They are subdivided into coniferous and flood-plain forests.

Fauna. There are more than 300 species of vertebrates, including more than 20 species of fish, over 200 species of birds and 50 species of small-scale animals. There are rare birds like the black stork, balaban, golden eagle, bearded vulture, black goose, steppe eagle, etc. From mammals: Tien Shan ram, maral, "Marco Polo" arkar, red wolf, bear, lynx, snow leopard.

Conclusion: When planning and carrying out the work of laying out the fiber optic communication links in Naryn oblast, it is necessary to pay attention to the processes of flooding. Mud flow and flooding dangerous valleys in this zone can be Uzengu-Kuush, Dzhany-Djer, At-Bashy, Tyulek, the most dangerous, due to a possible breakthrough of high-mountain lakes, are the valleys of Buzulgan-Suu-Shamshi, Anyrty-Ukyok western, Kel-Ukyok, Karakum-Kel-Ukyok, Kara-Kungey-Ukyok, Ukyok. The most probable period of flooding in connection with the breakthrough of the lakes is July-August (early September). .

3.2.7. Issyk-Kul oblast

Surface Pattern of the territory is divided into 2 main parts: the Issyk-Kul basin and the Issyk-Kul syrtas, stretching to the south of the Teskey Ala-Too ridge to the state border with China.

The only natural outlet from the basin into the Chui valley is the Chu River flowing along the Boom gorge. The basin has a length from east to west 240 km, a width of about 100 km. The central part is occupied by the Lake of Issyk-Kul. The lake is surrounded by a plain, a narrow coastal strip is covered with sand, less often with pebble, in some places it is composed of cemented sandstone, in some areas it is bogged. The plain stretches for 40-50 km east of the lake along the valleys of the Tyup and Zhyrgalan rivers.

Hydrographic characteristics. The rivers of the region with snow-glacier recharge belong to the basins of the Lake of Issyk-Kul, the Syr Darya, Chu, Tarim, Ili rivers. 80 rivers and small rivers flow into the Issyk-Kul Lake, none of which flow out from it. The surface water flow in the Issyk-Kul region is distributed unevenly. The rivers of the western part are usually shallow, whereas in the east their stream flows increase to 6-8 and even to 10-20 m3 / sec (the Tyup River, Zhyrgalan). The largest rivers are Jyrgalan (length 250 km), Tyup (120 km), Chon-Aksuu, Jeti-Oguz, Juuku, Chon-Kyzyl-Suu and Barskoon (about 100 km). The north-western part of the region is crossed by the Chu River, on the eastern outskirts of the basin there are the upper reaches of the river. Karkyra, belonging to the basin of the river of Ili. On the syrtas there is the outflows of the rivers of Naryn and Sary-Jaz. The glaciers are one of the most important factors forming the runoff of

the mountain rivers. The area of glaciation of the Kungei Ala-Too Range is 221 km^2 , the Teskey Ala-Too Range is 1081 km^2 .

Climate. The climate of the North-Eastern Kyrgyzstan is formed under the influence of the large non-freezing lakeof Issyk-Kul (6,200 sq. Km) located at an altitude of 1608 meters above the sea level and has features of the marine climate: mild winter, relatively warm summer, smoothed annual air temperature.

The duration of the warmest period with an average daily temperature 10° above zero is 155-160 days, the duration of the frost-free period is 170-185 days, the average July temperature is 18 ... 19°, the average maximum temperature is 23 ... 25°, the absolute maximum is 33° above zero.

Earthquakes. The seismic regime of the Issyk-Kul region (Northern Kyrgyzstan) is characterized by the presence of 5, 4, 7, 10 and 33 summer frequencies. The phase of seismic intensification, which began in 2011, is coming to an end in the years 2015-2016. (When earthquakes with K_m = 12.0-13.6 are possible), and a new phase of activation is expected in the period of years 2018-2021 when earthquakes with K_R= 12.5-15.0 with shaking I = 6-8 scores are possible.

Landslides The landslide processes are mainly developed in the foothills of the Kungei and Teskey Ala-Too, in the structure of which Neogene and Quaternary sediments prevail, where there are about 60 landslide areas.

Mudflows and river floodings. The most dangerous valleys in this zone can be Költer-Ton, Tosor, Ak-Terek, Chytindy-Tosor, Barskoon, Kumtor (in the upper reaches of Naryn, Lake Petrov), Chok-Tal, Zyndan-Ton, Kurumdu-Ton, Jer- Ak-Say, Karakol, Enilchek-Sary-Jaz, Chon-Ak-Suu, Toguz-Bulak-Tosor, Konur-Olen-Ak-Terek, Chon-Koisuu. The most probable period of the passage of floods that can occurr as a result of the breakthrough of high-mountain lakes is July-August (early September).

The most probable time of the passage of mud flows and floods (April-June) is associated with the periods of snowmelt and rainfall. The most dangerous valleys are Cholpon-Ata, Chon-Aksuu, Arasan, Ak-Suu, Chon-Kyzyl-Suu, Jeti-Oguz, Kaji-Sai, Juuka, Chon-Kyzyl-Suu, Kichi-Kyzyl-Suu, Karakol, Cholpon- Ata, Orto-Dolonotu, as well as Shirgi, Baidam-Tal, Kalmak-Ashuu, Dure-Suu, Kabyrga, Orto-Koisuu, Chon-Koisuu, Baktu-Dolonotu, Tegermeni, Chet-Beisoorun, Orto-Baysoorun, Kara-Debe, Atamkulu, Chon-Oryuktyu, Kichi-Oryuktyu, Kuturga, Kurtmentyu, Balbay, Shaty, Taldy-Suu, Corumdy, Turgen-Ak-Suu, Boz-Uchuk, Djerges, Yyrdyk, Kichi-Jargylchak, Sary- Bulak, Chon-Jargylchak, Tamga.

Under Flooding. The under flooding in the Issyk-Kul region is present in the coastal zone of the Issyk-Kul Lake, in the bottoms of the intermountain depressions, in the valleys of the Tyup,

Zhyrgalan, and Karakol rivers on a total area of 600 km2. Under flooding is registered on the territory of 32 settlements and sites, including in the town of Balykchy.

The villages of Bar-Bulak and Kara-Koo partially fall into the under flooding zone. An even greater area of under flooding covers the Jeti-Oguz-Yyrdyk depression. Here, the most extensive under flooding area was formed in the Issyk-Kul region, although the depression is almost completely open down the piedmont plain towards the lake. Also in the under flooding zone are the villages of Chyrak, Kabak, Ak-Dyobo.

The areas of under flooding associated with the support of groundwater by the Lake of Issyk-Kul encompass the coastal zone between the city of Balykchy and the village of Toru-Aygyr, the interfluve of Ak-Suu-Kamennaya, Chon-Oryuktyu-Orto-Oryuktyu, and the mouths of the rivers Irdyk, Jeti Oguz, Ton, Ak-Terek, Tuura-Suu.

Flora. The flora of the Issyk-Kul basin consists of 134 families, 536 genuses. Out of these, lichens form 20 families, 39 genus and 120 species: mosses - 5 families, 16 genuses, 38 species: ferns - 3 families, 7 genuses; Horsetail-1 family, 3 species; Gymnosperms - 3 families, 6 genera, 12 species; Angiosperms - 102 families, 467 genera, 1137 species.

9 species of plants listed in the Red Book of the Kyrgyz Republic have been discovered on the studied area. This is the calamus (sedge cane) found in the floodplain of the river of Tyup, horseheal, species with the shrinking area and stock, saussure wrapped, growing in Teskey Alatoo, in the upper reaches of the river of Sary-Jaz, tianshanochka umbelliferous, existing in Teskei Alatoo, on the Issyk-Kul region, foxberry hairy - Issyk-Kul basin (western part), Kyrgyz kopeck - Teskey Alatoo and Central Tien Shan, Kolpakovsky tulip grows in the Chui valley, Kyrgyz Alatoo, Prisyskkulie, anemone tulip - Central Tien Shan, Teskey Alatoo, the river basin. Sary-Jaz, Siberian Tien-Shan grows on the ridges of Teskey Alatoo, Kungei Alatoo. Plants listed in the list of rare and endangered species of the CIS flora that occur on the territory of the biosphere reserve are larger. This list includes the following species: tyanchanic umbelliferous, rhodiola rosea, all kinds of scaled juniper, licorice common, crocus, steppe peony, akonite of Karakol and akonit Dzungarian, gold shining pheasant' eye and others.

The coastal zone is part of the Issyk-Kul State Reserve, but observations have shown that the reserve status in this territory is not respected in regard to many biocenoses. ,The territory is used for the boarding houses, health resorts, sheep encamings, as a result of human and animal activities, secondary communities are formed, consisting of poisonous, weedy, non-eaten plants, which means gradual degradation of natural vegetation. In the formation of vegetation of the coastal zone, the role of groundwater is great. So sea buckthorn and reeds grow only when they are close to the bedding. The oppressed state of thickets of sea buckthorn and reeds is usually

associated with a sharp decrease in the ground water table.

Fauna. As a result of the reduction of the forest areas, mass cattle grazing, hunting and poaching, the number of many animals has significantly decreased: roe deers, lynxs, bears, wild boars, sparrowhawk, and also maral and black grouse (the latter have practically disappeared). The places of the intensive economic use, as a rule, are characterized by a noticeable reduction in the species diversity of the vegetation and animal world. The fauna of terrestrial vertebrates of the Issyk-Kul oblast is represented by 335 species: 3 species of amphibians: (Central Asian and lake frog and Central Asian toad); reptiles 11 species - Kashgar, fast and colorful lizards, quick lizard, water snake, wood snakes, rattle snakes. The mammal class is represented by 54 species, of which 9 are listed in the Red Book of Kyrgyzstan, and 4 are endemic species of the Tien Shan region. Water cenoses (especially the Lake of Issyk-Kul) includes a large number of endemics, relicts and rare species (8 fish, 20 crustaceans, 11 nematodes, 9 amphibians – insects).

12 species of insects have been added to the Red Book of Kyrgyzstan: 5 butterflies, including swallowtails, 4 species of parnassians – black apollo, Tien Shan dilphius and actus, 3 species of bumblebees – carder bee, plate-toothed and Armenian, bee carpenter, — from beetles – redolent European ground beetle, of dipterous - giant robber fly and sub-circular leaf cuter bee. One can observe a decrease in the diversity of the native species, accompanied by the invasion and the outbursts in the number of of the synanthropic species of insects, birds, animals (pests of agricultural plants, sparrows, starlings, and rodents), as well as introduced species (fish, crustaceans).,

The beauty is fragrant, from Diptera - the giant giant and the megahila is rounded. There is a decrease in the diversity of native species, accompanied by the invasion and outbursts of the synanthropic species of insects, birds, animals (pests of crops, sparrows, starlings, and rodents), as well as a Climate fish (crustaceans).

Conclusion: When planning and conducting the works on laying out the fiber optic communication links in the Issyk-Kul region, it is necessary to pay attention to the processes of flooding. Flooding is noted on the territory of 32 settlements and sites, including the town of Balykchy.The villages of Bar-Bulak and Kara-Koopartially fall in the zone of flooding . An even greater area flooding covers in the Jeti-Oguz-Yyrdyk depression.

Virtually all works carried out in high-mountainous areas, regardless of the geographical and administrative location of the territory, are associated with the risk of landslides during the laying of fiber optic communication links. In this connection, when developing the project documentation, it is necessary to pay attention to the presence of "live" slopes on the territory of the planned works, and the development of tightened measures for safety engineering and the

management of the surrounding and social environment during the performance of works.

Further, Chapter 4 presents potential positive and negative environmental and social consequences expected at implementation the Digital CASA – the KR project.

4. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS OF THE DIGITAL CASA PROJECT

This chapter analyzes the potential environmental and social impacts and risks that are expected at implementing activities within the Digital CASA - the KR components.

The first section identifies project activities that can generate environment and social impact risks. The second section describes the scope of work that cause environmental and social concern. The third section identifies potential positive and negative consequences and risks of the Project, as well as the appropriate measures to increase efficiency for the positive impact and mitigating measures of negative impact.

4.1. Project Components and Activities that Raise Environmental and Social Concerns

Out of all activities included in components 1 and 2, only activities that involve implementation of construction and repair work and installation of fiber optic networks can have negative environmental and social consequences. Details of these activities are provided in Section 4.2.

It is assumed that the adverse environmental and social consequences and risks of subprojects involving the above-mentioned activities may have an insignificant or (rarely) an average impact; they are local (limited in territory); short-term; and reversible. This allows to manage or mitigate these risks or adverse effects through publicly available measures, listed in Appendix 2.

The remaining activities in components 1 and 2 include (i) financing the pre-purchase of high-bandwidth Internet traffic for public use and the expansion of the capacity of the public data network (Govnet); (ii) creation of digital platforms and intelligent solutions that are aimed at encouraging wider and more productive use of the expanded Internet connectivity of government agencies, local government bodies, business entities and citizens.

These activities consist of technically simple operations of small scale, such as installation, updating and connection of equipment, software, peripherals, cables, power supply, etc., therefore, it is possible to assume that it will have a minimal and local exposure on the environment and population, or there will be no impact at all during implementing these works.

Components 3 and 4 include such activities as technical assistance, capacity building and increase, provision of equipment and software, among others, that do not create environmental or social issues.

For the Kyrgyz Republic to fulfill its goal of providing reliable and affordable Internet services to the citizens of the region, creation opportunity for the connection of small and medium-sized businesses with the regional and global digital economy and promotion of innovations in the provision of public and private

services, it is necessary to complete the construction of a backbone regional network. The development of internal fiber-optic networks through the territory of the Kyrgyz Republic will allow to organize a network with a high capacity and provide access to the Internet in all parts of the country. It is planned that within the framework of the Digital CASA the KR project, there will be option to connect 50 settlements in 7 regions of the country, by creating an FON infrastructure to each village. Within the framework of the Project, it is planned to provide Internet access for state and municipal facilities in five areas: Ministry of Interior units, medical institutions, public schools, state administrations and local governments and post offices, which will help to increase access to public services and Internet in remote areas of the country. Also, within the framework of the Project, it is planned to create three IXP traffic exchange points: Bishkek, Osh, and Data Center "Eurasia-Cloud".

In total, the length of the fiber optic cable within the framework of the Digital CASA- the KR project, will be about 5,000 km. Appendix 1 presents a map of the preliminary FON route. It includes an operating FON, as well as networks planned for installation, as part of the Digital CASA- the KR project.

FON installation, including installation and construction works, will be carried out by contractor companies selected on a competitive basis. Contractor companies will implement separate subprojects, within which it is possible to invite subcontractors - external suppliers of materials and services for the planned work.

Negative consequences and risks associated with the supply, installation and commissioning of fiber-optic networks mainly relates to the issues of environmental protection and safety for workers and population, which are discussed in Appendix 2. This Appendix presents the expected consequences and risks of the Project, as well as activities for their mitigation.

In total, the scope of work on the FON installation consists of the following activities, which must be performed by all contractors in accordance with the developed technical documentation and World Bank requirements for each work site:

- A comprehensive engineering study for each route assigned to the Contractor.
- Execution of excavation works, construction works, installation of pipelines and cable installation in conduits. Backfilling of trenches, as well as the supply and installation of signal tapes and marker poles to identify routes.
- Construction works may include the construction of an access road from the main road to the FON installation site, to the connection points of a new FON section to the existing network, to the buildings for telecommunication equipment, etc.
- Supply of fiber optic cable, connecting and mounting materials.
- Supply and installation of auxiliary and ICT equipment.
- Testing and commissioning of each part of the FON
- Connection of newly laid fiber optic cable with the existing line of the common network.

A brief guide to installation of a hidden fiber optic cable:

1. Preparation for digging trenches. Having studied the route plan and the route on the site, prior to the works start, the following steps must be undertaken:
    - Local authorities should be informed of the scope and timing of the planned work.
    - The trench route and terms of work should be coordinated with authorized organizations.
    - All necessary materials must be at the site of the planned work.
    - If necessary, changes in traffic on the roadway and pedestrian routes are arranged.
    - The route of the planned fiber-optic line should be visually marked on the ground with a marking compound. The route marking must be 1 meter (m) wide.
    - All necessary facilities should be placed, per their functional purpose and the requirements of technical and environmental safety.
    - Warning signs must be placed on the site of the planned works, along the perimeter of the construction site (informing on conduction of works hazardous to health).
2. Excavation of trenches in a loose ground:
    - On a loose ground, the trench must be excavated to a depth of 1.2 m to 1.7 m; Trenches should be calibrated to ensure that the cable is installed on a flat surface. The width of the trench should not be more than 45 centimeters.
    - On the bottom of the trench, a layer of soft soil is laid with a depth of 15 cm, a cable duct is laid on top, which should be placed in the center of the trench.
    - A soft layer of soil of 15 cm thickness should be sprinkled over the cable and must be compacted.
3. If there are areas along the route where there are large volumes of excavated soil (hills) or pits and ditches that were located along the route line prior to the commencement of work and cannot be bypassed without prejudice to ongoing work and violation of the technical design, then the following procedure applies:
    a. If there are hills (rockfall, debris flow demolition, mound, etc.) of less than 10 meters in height, such hill must be cut to the level of the main road surface, soil, and vegetation including fertile layer with its further storage in a specially designated place with its further use for reclamation operations and / or for backfilling ditches and pits, along the FOCL construction route.
    b. If there is an excavation/hole (pits, trenches, soaked places, etc.) with a depth of less than 10 meters, it should be filled up to the level of the main road surface, considering the location (trench) for cable installation.

The procedures for installation the fiber optic cable presented above contain information for more general tasks and field conditions, but at installation fiber optic cable, there may be situations that are not given above. Among the latter are: i) excavations in sandy soils and reservoirs; ii) when the soil has been heaped or removed, on the route line, by more than 10 meters; iii) cable installation in standing water areas; iv)

crossing rivers; v) Crossing of slopes, including rocky ones, in such cases is necessary at the design stage, to assess all available opportunities and risks after reconnaissance at the work site, to determine the technology for installation fiber-optic lines during the passage of such sections, and to develop safety measures for the work. In such situations, during development of the for Environmental and Social Management Plan (ESMP) in this area it is necessary to consider existing special conditions along the route of FON installation with mandatory development of measures to reduce the environmental and social impacts.

If, during the installation of a fiber optic cable, excavation of trenches is not advisable, for example, when crossing central roads, waterways, etc., it is planned to use a horizontal drilling machine (trenchless method of cable installation or "puncture"). Sometimes, with small scope of work, drilling can be done manually with simple tools such as a hand drill or a pipe and shovels. Such form of horizontal directional drilling can pose a serious threat to safety and health due to working in confined spaces. Appendix 2 addresses the expected impacts and risks of the Project and their mitigation, including measures to address the safety and health hazards at manual labor.

4.2. Potential environmental and social impacts and risks of the Digital CASA- the KR project

It is expected that the overall impact of the Project will be largely positive. Appendix 3 summarizes the potential positive impacts of each of the components of the Project.

The World Bank classified the Project as a "B" category from an environmental and social point of view, which reflects the potential environmental risks and impacts associated with the project. The consequences of the impact of Project activities depend on the activities carried out within the components of the Project and the specific location of these activities. Project category is defined based on the component, which can have the most significant adverse effects[13] . For the Digital CASA – the KR project such components are components 1 and 2, which include activities for installation new backbone networks and their integration with existing regional fiber-optic networks and the construction and / or repair, if necessary, of additional infrastructure, including the data center (including servers, data storage equipment, power supply, air conditioning and cooling systems), nodal and central stations.

During the preliminary assessment of the planned works, possible negative consequences and risks were identified:

- Erosion of soil;
- Water and soil contamination and landscape degradation;
- Air pollution;
- Noise and vibration;
- Traffic jams and / or their overlapping, creation of dangerous driving conditions;

[13] World Bank Operational Policy OP 4.01

- Danger to pedestrians
- Temporary restriction of water, telephone or Internet services;
- Danger to health and safety of work;
- Public health and safety;
- Partial loss of business assets;
- And the temporary restriction of access to commercial and institutional institutions, as well as to residential properties.

It is planned that the Project's approaches to the implementation of construction works and the developed preventive measures will significantly reduce the possible negative consequences and risks:

1. It is expected that the project will not include construction of high stations and towers, and this will reduce the possible impacts associated with the installation of such structures, such as the removal of fertile-topsoil, soil erosion, installation of concrete foundations, the degradation of the visual landscape, the collision of birds and the impact of electromagnetic waves.
2. Within the framework of the project, to the extent possible, there will be no construction of a large number of new buildings, since it is planned that the activities necessary for expansion, upgrade or update of ICT equipment, software, peripherals, systems, etc., will be carried out in already existing buildings. If necessary, these buildings and premises will be renovated. In the case of the need to build IXP traffic exchange points within the framework of subprojects, special conditions must be provided for the planned activity with a mandatory assessment of their impact on the ecological and social environment and the development of measures to reduce this impact, with the introduction of activities into the Environmental and Social Management Plans and the Local Resettlement Action Plan.
3. It is assumed that the installation of new FON sections will be carried out along existing and under construction roads (state lands of industry, transport, communications, energy, defense and other purposes) and only if necessary, others category of land can be considered for FON installation and / or construction of necessary infrastructure. If it is necessary to use land of a different category within the project, such land will be transferred to the category of industry, in accordance with the requirements of the Kyrgyz legislation. At the same time, the development of measures to reduce the impact on the environment and the development of activities in the resettlement action plan, according to the WB policies, is mandatory. Thus, it will minimize the negative impact on the population and the environment.

4. The construction work required for installation the fiber optic cable consists, in general, of very simple operations, from a technical point of view, including digging trenches, filling them and compacting the ground, installing the cable in the conduits. In addition, these jobs require very simple machines and tools, such as backhoe loaders, cable layers, shovels, crowbars, etc. In addition, the trenches are not large (up to 1.7 m in depth and up to a width of 45 cm). Thereby risks are significantly reducing and safety in construction sites is increasing during land works.
5. The project does not foresee the creation of construction camps, it is assumed that workers engaged in installation fiber-optic lines will live in rented premises, in the nearest villages to the work site. This will reduce the environmental and social consequences and risks associated with site selection, construction, operation and closure of construction camps.
6. The project does not anticipate the creation of production lines for the production of construction materials (i.e., the preparation of concrete mix, crushing stone, cement or asphalt plants). The necessary building materials will be supplied by the organization that implements the project or by external suppliers in accordance with the contract.
7. Use of asbestos-containing materials (ACM) is prohibited in implementation of the Project.

5. The Framework for Ensuring Environmental and Social Management in the Project

This chapter consists of eleven sections. Section 5.1 considers the process of the environmental and social management implemented by the PMU. Section 5.2 explains the structure of the environmental and social management process within the framework of the Project, identifies the steps associated with management, specifies when each stage should be implemented, and defines the tools used at each stage of managing environment and social impact. Sections 5.3 and 5.6 describe the implementation tools, the timing of their use, the institutional responsibilities related, respectively, to each stage of environmental and social management: (i) Pre-selection of subprojects; ii) Subproject evaluation; (iii) procurement process; iv) introduction, implementation and monitoring of subprojects.

Section 5.7 provides details of institutional arrangements for the environmental and social management. Section 5.8 explains the grievance procedure for considering complaints in case of consequences or indirect effects on the environment or the public. Section 5.9 presents a vision of budget expenditures for managing the environment and the social impact. Section 5.10 sets out the requirements for monitoring and reporting on the implementation of the environmental and social requirements of the Project. Section 5.11 provides requirements for public awareness about environmental and social safety in the implementation of the Project.

5.1. The process of environment and social impact management implemented by the PMU

Since the PMU does not have a specialist on environmental and social issues, it will select an Expert on Environmental and Social issues on a competitive basis. It is planned that an organization or expert who is familiar with the fundamentals of social and environmental policy of the World Bank, with experience in the development of environmental protection documents, according to the requirements of the World Bank and the legislation of the Kyrgyz Republic, will be selected for the position of the " An Expert on Environmental and Social issues".

The expert, at performing his/her functions in the project, will report directly to the head of the PMU.

It is assumed that the duties of the Expert on Environmental and Social issues will include: i) Development of necessary documents for the implementation of subprojects (ESMP, RFP); ii) Assistance to the PMU in ensuring environmental and social sustainability in the procurement and project management process; (iii) Consultation of contractors in the preparation of technical documentation (preparation of an environmental section in technical projects for harmonization of the World Bank safeguard provisions and environmental and social legislation requirements of the Kyrgyz Republic); iv) Assistance to the PMU in supervising the environmental and social safety of the implemented subprojects , by consulting subcontractors on the implementation of the RAP and ESMP, as well as participation in the consideration of complaints from interested parties on issues related to the implementation of the RAP and ESMP.

Environment and social impact management includes a set of interrelated actions aimed at ensuring effective overall management in the implementation of the Project:

1. The PMU selects, on a competitive basis, an Expert on Environmental and Social issues (hereinafter the Expert).
2. The PMU together with the Expert, develops and introduces documents, norms and requirements for mandatory use by all entities involved in the Project and subprojects to ensure environmental and social sustainability at all stages of the Digital CASA - the KR Project implementation.
3. All Component Coordinators (1-3 components) and the CASA Digital- the KR project management unit interact with the Expert when it is necessary to implement comprehensive environmental protection measures, comprehensive principles of non-discrimination; measures of health protection and ensuring safety of the population, as well as interaction with stakeholders on environmental and social issues, throughout the project cycle.
4. The PMU supervises the environmental and social safety of the implemented subprojects.

5.2. The structure of the process of environment and social impact management

The structure of the environmental and social impact management process for the Digital CASA – the KR project includes the following four phases:

1. **Pre-screening process of subprojects** for each site of planned route for FON installation, within the framework of the Digital CASA- the KR Project.
2. **Subproject evaluation and development of documents** for each sub-project, including for procurement (including environmental and social sustainability in the procurement process).
3. Conducting a tender for the selection of contractors for the implementation of subprojects (the **procurement process**).
4. **Introduction and implementation of subprojects**, including monitoring of environmental and social safety during n the implementation of subprojects.

Table 5.2.1. Provides an overview of the stages of environmental and social management, presents the tools that will be used at each stage and the actors involved in the implementation of a certain stage.

Table 5.2.1.

Overview of the phase of managing the environment and social environment

Phase	Tools / documents for the implementation of the Phase	Responsible for the implementation of the Phase and the development of documents
Environmental and Social Screening	• ESMF's • Potential positive and negative environmental and social impacts and risks in each area of work and measures to mitigate them (Annexes 2 and 3 ESMF's). • Check-list of pre-screening process (Appendix 4. ESMF's)	• PMU • Expert on environmental and social issues
Environmental and Social Scoping	• ESMF's • RPF • Potential negative and positive environmental and social impacts and risks of the DIGITAL CASA- the KR Project (Annexes 2 and 3 ESMF's) • Methodology for the assessment of potential environmental risks and impacts of the project (Annexe 5.) • Check-list (Appendix 6. ESMF's)	• SCITC • PMU • Expert on environmental and social issues

Phase	Tools / documents for the implementation of the Phase	Responsible for the implementation of the Phase and the development of documents
Incorporation of Environmental and Social Sustainability into Subproject & Procurement process	• Requirements for organizations to participate in the procurement process. • Terms of Reference for the execution of subprojects for contractors. • Requirements on environmental, social security measures in the implementation of subprojects for inclusion in a contract with a contractor.	• SCITC • PMU • Expert on environmental and social issues
Environmental and Social Compliance Oversight	• The check-list for compliance oversight (Appendix 9. ESMF's) • Report on compliance with requirements FESMP and RPF (Appendix 10. ESMF's)	• PMU • Expert on environmental and social issues

5.3. Environmental and Social Screening

For each specific site (the general route of FON installation), at the initial stage, a preliminary selection of subprojects will be carried out. This stage will take place before the subproject evaluation stage.

The preliminary selection procedure includes:

1. Identification of the activity on the studied part of the route of FON installation (prospective types and scope of work, Technology and equipment used, etc.), together with PMU;
2. Assessment of potential physical, affected environmental and social object based on existing knowledge in the field of environmental and social baseline conditions and based on expert assessment of the proposed activity;
3. Check-list of screening process (Appendix 4.) on preliminary (pre) selection to illustrate the potential interaction of subproject activities with affected physical, environmental and social objects;
4. Preparation of a report, for the management of the PMU, for the entire pre-selection process for all parts of the FON route, with a Checklist for each site and list of exceptions (if any).

The Head of the PMU approves all the documents developed at this stage.

The list of exceptions will identify subprojects that cannot receive funding under the Digital CASA- the KR project because they involve unauthorized actions or create significant negative environmental or social

consequences and risks such as involuntary resettlement and significant conversion[14] or degradation of critical natural habitat. The World Bank classified the Project as a "B" category from an environmental and social point of view, indicating that only minor and moderate adverse impacts and risks are expected. Therefore, subprojects that have an impact above category "B" (according to the WB classification) will be excluded from further funding under the Digital CASA-the KR project.

An Expert on Environmental and Social issues conducts an interconnected sequence of pre-selection actions, as per the procedure outlined above. The Head of the PMU approves the report of the Expert on the subproject pre-selection process, the final Check-Lists and the list of exceptions (if any). After completion of this stage, the Pre-selection Check Lists will become an enclosure of the project documentation package for each sub-project.

The information gathered at the pre-selection stage will serve as the basis for the evaluation of subprojects, which is the next stage of environmental and social management for the Digital CASA- the KR project.

5.4. Environmental and Social Scoping

Subprojects that have passed the preliminary selection and are not included in the list of exceptions must undergo a Scoping. This step includes the environmental and social categorization of proposed subprojects and, based on the assigned category, the type of environmental and social analysis applicable to each subproject shall be defined. This step will take place before the procurement phase, the Expert on Environmental and Social Issues will be responsible for carrying out this stage.

The Expert conducts the necessary environmental and social assessment of each sub-project, taking into account the Check-Lists prepared at the preliminary selection stage.

Scoping of the Subproject is a process, the scope, depth and analytical method of which depend on the nature, extent and potential impact of the proposed subproject on the ecological and social environment. The scope of the assessment and the level of specification should be correlated with the potential environmental impact of the project.

The assessment considers the natural environment (air, water and land); health and safety of the population; social aspects (involuntary resettlement); as well as transboundary and global environmental aspects[15]. Natural and social aspects are considered together[16].

During the process of Scoping of the subproject, possible adverse and positive environmental risks and consequences of the project implementation are considered and recommendations are given on the measures that are necessary in order to prevent, minimize, mitigate or compensate for adverse effects for a more rational use of the natural and social environment.

When conducting an environmental risk assessment, the following rules for permissible environmental risks are considered:

[14] Conversion (from Latin Conversion) - "reversion", "transformation", "change"

[15] Global environmental problems include climate change, ozone depleting substances, pollution of international waters and negative impacts on biodiversity

[16] World Bank operational manual. Operational Policy OP 4.01, January 1999

- The volume of unavoidable losses in the natural environment;
- The volume of minimal losses in the natural environment;
- Possibility of actual recovery of losses caused to the environment;
- Lack of impact on human health;
- Proportionality of the economic effect from project implementation and environmental damage.

The subproject evaluation procedure includes:

1. Assessing potential environmental risks[17] and the consequences of the project in the affected zone[18] and in the conjugated areas. The methodology for assessing potential environmental risks and project influences in the impact area is proposed in Appendix 5.
2. Environmental and social categorization based on the assessment conducted for each subproject. The category is defined jointly by the Expert on Environmental and Social issues and the PMU. If in during the subproject assessment it was determined that there are few or no irreversible consequences (the consequences depend on the specific location of the subproject) and it has a total score of 1 to 8 points, then the subproject is characterized as a subproject with a low significance; If the assessment is equal to 9-21 points – it is a subproject that has an impact of medium importance; a subproject with an impact of high significance will accrue 28-64 points. It is assumed that at this stage, subprojects with high impact will not be executed.
3. Preparation of final documents on the scoping of subprojects. For subprojects that have a category of " Impact of low significance" - the Check-list[19] of Local Environmental and Social Management Plan (LESMP) (Abbreviated version - Appendix 6) is filled in, in all other cases, the LESMP will be prepared

[17] Risk assessment: A mechanism for assessing the likelihood of damage caused by the presence of hazardous conditions or materials at the site of the project. Risk assessment is a systematic approach to the organization and analysis of scientific data on potentially hazardous activities or on substances which use under certain conditions may pose a risk. Source: World Bank Operating Manual 4.01. (Appendix A. Operational Policy, January 1999).

[18] Project impact area: The area that the project can affect, including all its supportive aspects, such as the main power transmission routes, pipelines, canals, tunnels, transport and access roads, waste collection and disposal areas, temporary builders' settlements, as well as unplanned operations related to the implementation of the project (for example, spontaneous settlement, logging or slash-and-farming along the access roads). The impact zone may include, for example, a) the watershed within which the project is located; b) projected river estuary or coastal zone; (c) Areas outside the project site necessary for the resettlement of residents or compensation sites; d) "air separation" (where airborne contamination, such as smoke or dust, can penetrate or leave the affected area); (e) Routes of migration of people, wild animals or fish, especially those related to public health, economic activities or environmental protection; And f) territories used to support livelihoods (hunting, fishing, grazing, harvesting, farming, etc.) or for religious or ritual purposes in accordance with local traditions. Source: World Bank Operating Manual 4.01. (Appendix A. Operational Policy, January 1999).

[19] The check-list of the LESMP is prepared if, when assessing the subproject, it was identified that there are few or no irreversible consequences (the consequences depend on the specific location of the subproject).

in full format, in accordance with the procedures of the World Bank. The list of documents required for each subproject category is presented in Table 5.4.1.

4. Development of Resettlement Action Plan (RAP) for each sub-project (if necessary). The need to develop this document, in accordance with the World Bank procedures and the terms of the Resettlement Policy Framework (RPF), is identified during the assessment of potential impact of the proposed subproject on the social environment.
5. Preparation of a report for the management of the PMU for the whole assessment process, for all sub-projects, with enclosure of documents for each site. The Head of the PMU approves all documents developed at this stage.
6. For ensuring the quality of the LESMP and its checklists, the PMU submits to the World Bank for verification and approval the first three LESMP (full format) and three Check-Lists of the LESMP (6 documents in total) developed for the subprojects.

The developed documents are an integral part of the project documentation for each sub-project and must be strictly observed by contractors at all stages of sub-project.

Table 5.4.1.

List of documents required for each sub-project category

Project category	Necessary environmental and social analysis
Impact of medium significance	• Local Environmental and Social Management Plan (LESMP) developed in accordance with Environmental and Social Management Framework • If necessary, Resettlement Action Plan developed (RAP) in accordance with guidelines of the Word Bank and Resettlement Framework Policy
Impact of low significance	• The check-list of the LESMP

The procedures described in the LESMP and RAP, developed in accordance with the procedures of the World Bank, for each pre-selected subproject shall be the basis for the preparation of tender documents and procurement process, for ensuring integration of environmental and social sustainability in the procurement process.

The conditions for compliance with environmental and social safety requirements and principles of mitigation of the impact on environment and the population, at all stages of the work, should be included in all procurement documents, including the terms of reference for contractors. The contract signed between the PMU and the contractor- winner of the tender, should include the obligations of the contractor, among

others, on compliance with environmental and social safety requirements and principles of minimizing the impact on the environment and the population, at all stages of the work. The compliance with the conditions and requirements of LESMP or Check-Lists LESMP and RAP should be also ensured.

5.5. Procurement Process

The procedure and package of documents for the procurement should be developed by the PMU in conjunction with the SCITC of the KR. The expert submits to the PMU his/her proposals to be included into procurement documents, for *ensuring requirements for environmental and social sustainability* in bidding documents (requirements for organizations to participate in the procurement tender, terms of reference for contractors and other, if necessary, if requested by the PMU). The expert, when developing contracts between the PMU and contractors, makes his/her proposals on the rights and duties of the PMU and contractors to *ensure environmental and social security measures* in the implementation of subprojects.

5.6. Starting of project, Environmental and Social Compliance Oversight

Introduction and implementation of subprojects, including environmental and social safety monitoring will be the final stage in the environmental and social management process of the Project.

Starting of project

Prior to the start of the implementation of the subproject, on the site of the work, the contracting organizations must have all the authorization documents regulated by the requirements of the World Bank and the legislation of the Kyrgyz Republic, for category "B" projects according to the World Bank classification. These requirements must be reflected in the contract between the PMU and contractors.

To ensure the timely and correct preparation of the project documents, considering the requirements of compliance with environmental and social safety measures in the framework of the planned work, it is necessary to conduct introductory workshop for all contractors that signed a contract for sub-projects along the FON route within the Digital CASA - the KR project.

The workshop is recommended to be conducted by the PMU and the Expert, no later than 5 days after completion of the procurement process and signing of all contracts with contractors.

The expert, if necessary, provides advice to contractors on the order and content of the required package of documents after signing the contracts.

Implementation

The subprojects implementation shall start on the site only after all documents have been prepared and received, in accordance with the requirements of the World Bank and Kyrgyz legislation for similar projects. The date of commencement of work must be reported to the PMU in writing.

Compliance Oversight

The PMU Compliance Oversight the compliance of environmental and social requirements established in the service contracts, as well as the conditions and requirements of the LESMP (The sub-project with Impact of medium significance) or Check-List of the LESMP (The sub-project with Impact of low significance) and RAP of each sub-projects. The Compliance Oversight of the contractors' activity shall be carried by the Expert on environmental and social issues once in 3 months, upon the decision of the PMU, the Project Component Coordinators can take part in such visits too.

The expert, together with the Component Coordinators, based on the LESMP (abbreviated version or full format) and RAP prepares the schedule of Compliance Oversight to be approved by the PMU.

The result of the audits will be the check-list for Compliance Oversight (Appendix 9) on compliance with environmental and social safety requirements in the implementation of subprojects. Based on the results of the visit to the sites of the implementation of all subprojects, the Project Component Coordinator, in conjunction with the Expert (if he/she participated in the Compliance Oversight), prepares a consolidated report (requirements for the report -are in the Appendix 9.), with a mandatory Check-lists for all conducted Compliance Oversight with its further submission to the PMU.

The Check-list on Compliance Oversight contains: i) the identified inconsistencies with the requirements of the Project documents and/or the environmental and / or social impact; (ii) A brief description of each non-compliance and/or impact; (iii) A summary of recommended action/ prevention to address the each non-compliance and/or impact; And (iv) the status of the implementation of previously of recommended action/ prevention to address each non-compliance and /or impact (if any).

In addition, supporting documentation and photographs are attached to Check-list as evidence of identified inconsistencies and /or impacts.

The Compliance Oversight can be carried out within the established deadlines (once every three months) or outside these deadlines, in case of receipt of complaint[20] about violation from any interested person and/or group of persons.

In cases where an allegation of inappropriate conduct is provided in the complaint of contractor, to contractor are referred the Compliance Oversight, to conduct an audit eradicate this situation. The contractor is given a time limit (no more than 14 days) to resolve the violation identified; this fact will be reflected in the Check-list for monitoring and reporting to PMU. After the set deadline, the Expert shall carry out control audit with the subsequent filling o the Check-list on Compliance Oversight.

5.7. Institutional mechanisms for the implementation of the environmental and social management process

[20] The Grievance Redress Mechanism is given in Section 5.8.

The State Committee for Information Technology and Communication of the Kyrgyz Republic (SCITC of the KR) forms a Project Management Unit (PMU) for the implementation of the Digital CASA -the KR project. Within the Project, the PMU is responsible for the daily management of the Project, including environmental and social issues.

The PMU will hire an expert on Environmental and Social issues who will work based on the Terms of Reference (TOR) developed by the PMU. It is planned that the PMU will select an organization that is familiar with the fundamentals of social and environmental policy of the World Bank and has experience in the development of documents in the field of environmental protection, according to the requirements of the World Bank and Kyrgyz legislation, as an "Expert on environmental and social issues".

The TOR will be developed based on the procedures and requirements of this document and the procedural documents of the Digital CASA - the KR project, considering the requirements of the World Bank and the legislation of the Kyrgyz Republic on hiring external experts at the implementation of relevant projects.

The table 5.7.1. describes in details the institutional responsibilities for the implementation of the environmental and social management process, specifying the institutional responsibilities for each stage.

Table 5.7.1.

Institutional mechanisms for the implementation of the environmental and social management process

Phase	Institutional Responsibilities			
	SCITC	PMU	Expert	Contractor organization
Pre-screening process of subprojects	• Definition sites of work for subprojects together with PMU • Discussion with the PMU of the List of sub-projects' exclusions prepared by the Expert, which he received at the Pre-screening process of subprojects;	1. Development of the Terms of Reference to hire of Expert on environmental and social issues. 1.1. Identify expert on environmental and social issues on a competitive basis. 2. Definition sites of work for subprojects together with SCITC. 2.1. Discussion with the SCITC of the List of sub-projects' exclusions prepared by the Expert, which he received at the Pre-screening process of subprojects; 2.2. Approval of the Report of the expert of Pre-screening process of sub-projects; 2.3. Approval of the list of exceptions of sub-projects, after consultation with SCITC.	• Determination of the expected types of work, the technologies and equipment used in each site of work. • Evaluation of the possible physical, environmental and social impacts on the work site; • Filling of Check-Lists on the Pre-screening processes for each subproject; • Preparation of the report, to the management by the PMU, of the Pre-screening process of subprojects, including Checklists and the list of exceptions (if any).	
The process of sub-project evaluation		• The PMU determines the environmental and social categorization of subprojects in conjunction with the Expert; • The PMU transmits to the World Bank for verification and approval three LESMP and three the check-list of the LESMP, developed for sub-projects; • Receiving feedback and approval from the World Bank on the developed documents.	• Conducting an assessment of potential environmental risks and potential negative impact • Expert determines the environmental and social categorization of subprojects in conjunction with the PMU; • Preparation of final documents for subprojects, including LESMP and LRAP; • Receiving feedback and approval from the World Bank on the developed documents.	

Phase	Institutional Responsibilities			
	SCITC	PMU	Expert	Contractor organization
			• Preparation of the report to the management of the PMU, of the process of the evaluation phase.	
The contract negotiations with the selected the contractor and procurement	• Harmonization of the package of procurement documents within the Digital CASA project of the Kyrgyz Republic; • Participation in the procurement process and signing contracts with the winners (contractor).	• Development of order and package of documents for procurement, taking into account proposals of expert to meeting the requirements for environmental and social security on the work's site; • Conducting the procurement process.	• Development of order and package of documents for procurement proposals to meeting the requirements for environmental and social security on the work's site; • Development for environmental, social security measures in the implementation of subprojects for inclusion in a contract with a contractor; • Participation in the procurement process and signing contracts with the winners (contractor).	• Preparation of a package of documents for participation in the procurement process within the Digital CASA project of the Kyrgyz Republic, taking into account the requirements for environmental and social sustainability.
Starting of project, implementation and Compliance Oversight	• Participation in the workshop Digital CASA project of the Kyrgyz Republic; • Identification of a responsible for handling complaints from stakeholders to the Project's activity.	• Organization of an workshop for all contractors who signed a sub-project contract within the Digital CASA project of the Kyrgyz Republic; • Adoption of the schedule Compliance Oversight of sub-projects.	• Expert workshop for all contractors who signed a sub-project contract within the Digital CASA project of the Kyrgyz Republic; • Advising project's contractors about the requirements of the World Bank and Kyrgyz legislation for the project documents on environmental and social security; • Preparation of a schedule for subproject Compliance Oversight, in conjunction with the component coordinators; • Participate in the dealing with complaints, if they relate to the	• Preparation of project's documents and obtaining of all authorization documents regulated by the requirements of the World Bank and legislation of the Kyrgyz Republic, for projects of category "B", according to the classification of the World Bank; • Implementation of sub-projects, according to the terms of the contract and project's documentation/

Phase	Institutional Responsibilities			
	SCITC	PMU	Expert	Contractor organization
			impact on the ecological and social environment; • Participate in Compliance Oversight of sub-projects on the revealed infringements at realization of sub-projects.	

5.8. Grievance procedure

The Grievance Redress Mechanism (GRM) provides a formal avenue for affected individuals or groups to engage with the Project implementers or sponsors of the Digital CASA-the KR Project on issues of concern or negative consequences. It aims to manage and satisfactorily respond to the complaints of individuals or groups of people regarding the environmental and social performance of the Project and subprojects at all stages.

The Mechanism ensures that: i) the basic rights and interests of every affected person or group by negative consequences at the project implementation are protected; and ii) Complaints and proposals are processed on time, the issues referred to in complaints and / or proposals are resolved effectively and with professional competence.

Complaints and concerns should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, at no cost and without retribution. Mechanisms should be appropriate to the scale of impacts posed by a project.

Instances of grievances and proposals redress mechanisms:

1 instance - Contractors

The procedure for handling complaints and proposals will be carried out by the management of the contractor organization.

2 instance – PMU of the Digital CASA- the KR project

The procedure for handling grievances and proposals will be carried out by the Grievance Redress Committee, at least consisting of the PMU Manager, Project Component Coordinators and the Expert on environmental and social issues (for considering grievances in the field of environmental and social impacts), as well as the representative of the local government of a settlement, where the grievance issue has appeared. No member of the Committee should have a conflict of interest related to any grievance submitted. The Committee must include women. If grievances and proposals relate to activities within the components of the Project or the implementation of subprojects in the field of environmental and social impacts and associated consequences, participation in the Committee of the Expert on environmental and social issues is mandatory. When considering grievances and proposals concerning the activities of contractor organizations, the presence of the contractor organization, for which the grievance has been submitted, is mandatory at the meeting of the Committee.

3 instance – the World Bank (Grievance Redress Unit[21])

[21] "The World Bank's Grievance Redress Service (GRS) provides an additional, accessible way for individuals and communities to complain directly to the World Bank if they believe that a World Bank-financed project had or is likely to have adverse effects on them or their community. The GRS enhances the World Bank's responsiveness and

Grievances are submitted if the complaint and / or proposal concerns the management issues or the procurement process of the Digital CASA - the Kyrgyz Republic Project or if in case when the decisions taken by previous instances did not satisfy the grievance initiator. Complaints are not limited to the above issues.

The process for handling complaints and proposals must meet the following conditions: (i) Complaints should be related to the Digital CASA– the KR Project or its subprojects for FON installation; ii) the process for grievance redress and proposals consideration should not impose any costs on those who initiate a grievance (i.e., Complainants); iii) problems associated with the implementation of the Project should be timely and appropriately addressed; (iv) grievances and proposals must be submitted in writing and sent by post service or e-mail; (v) grievances and suggestions may be submitted in Kyrgyz, Russian or English, at the choice of a complainant. vi) participation in the grievance process should not prevent the rights of a complainant for judicial protection, in accordance with the legislation of the Kyrgyz Republic.

The grievance content (eligibility criteria):

- Indicate the project that is the subject of the grievance (only complaints concerning the activities of the Digital CASA- the KR Project shall be subject to review);
- Clearly describe the negative consequences of the project;
- Identify a person or persons submitting the grievance and indicate whether they require confidentiality;
- Indicate whether the grievance is filed by a representative of person(s) or community (ies) an affected by the project;
- If the complainant is filed by a third party, include the name, signature, contact details and written evidence of the authority of that representative.

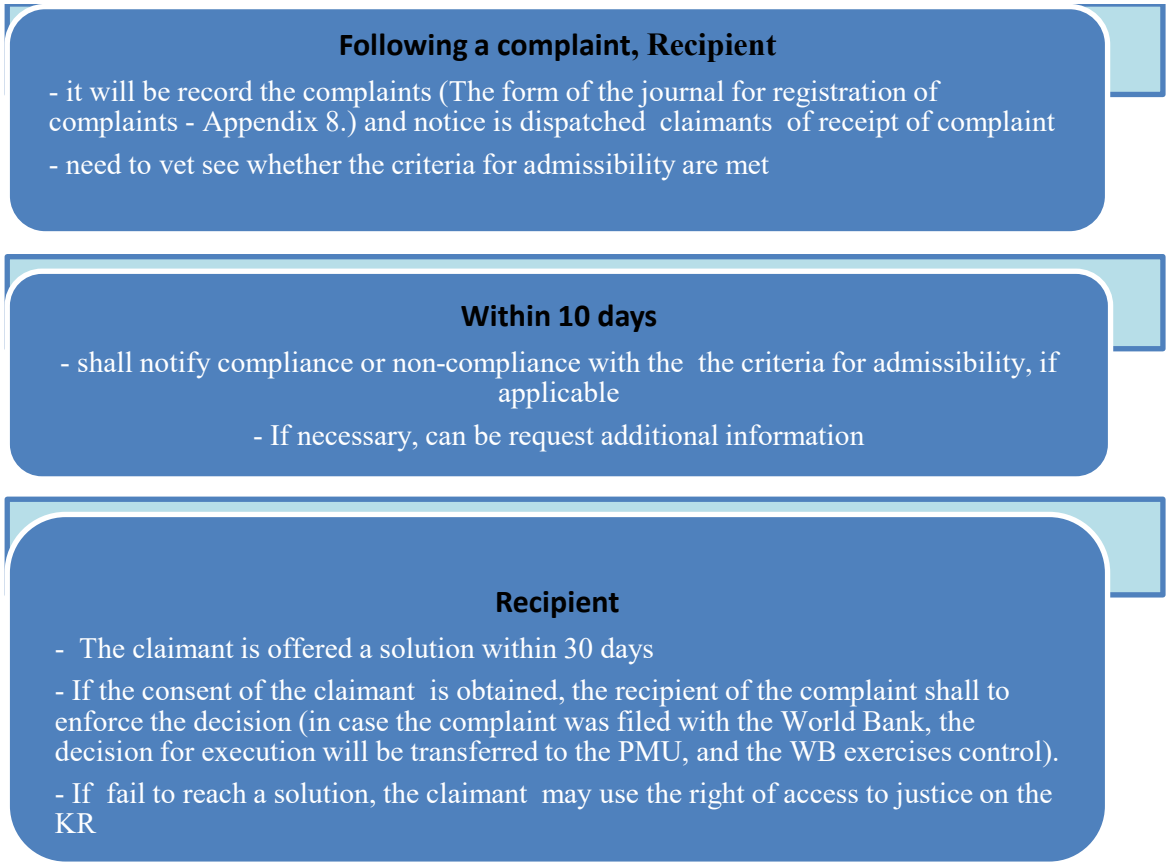
The submission of supporting documentation is not mandatory, but it can be useful during consideration and settlement of a grievance.

The complainant may also suggest acceptable ways of resolving it from his/her point of view.

If requested by complainants, their names and surnames will not be disclosed.

accountability by ensuring that grievances are promptly reviewed and responded to, and problems and solutions are identified by working together with stakeholders"

Grievance procedure[22]:



When considering grievances, upon the decision of the PMU, audit checks can be conducted with a visit to the work site within the framework of subprojects. The audit can be carried out, both within the framework of consideration of the grievance, and based on the results of the decision taken for the reviewed grievance. The composition of the Committee during the on-site audit is determined by the PMU, the results of the on-site audit are prepared by the Committee members in a 3-day period and submitted to the PMU for further decision.

When considering a complaint on environmental pollution, it is recommended to involve independent experts in the assessment of pollution (sampling and measurements) at the site. If independent experts are

[22] Использованы материалы по процедуре рассмотрения жалоб Всемирного Банка; http://pubdocs.worldbank.org/en/344481455136920191/GRSRussianLowRes.pdf

involved in the assessment of pollution, the deadline for report of the verification Committee is extended for the period of receipt of the opinion of independent experts, but not more than 14 days. All costs for assessing pollution at the work site and on-site audits are carried out at the expense of a guilty party (a contractor).

5.9. Budget for the implementation of the environmental and social management process in the Project

Estimated costs for the preparation and implementation of the Local Environment and Social Management Plan will be calculated and included in the procurement plan of the Project after the determination of a clear route for FON installation on the territory of the Kyrgyz Republic and reconnaissance within a certain corridor. The budget of the Expert on environmental and social issues will be included in the regular operational budget of the PMU. Terms and scope of work will be determined by the terms of procurement of the Expert services and Terms of References, the sum of remuneration will be determined by the PMU within the framework of the TOR of the project budget.

The budget for the implementation of measures to mitigate and monitor the environmental and social issues within the framework of ESMP, as well as the implementation of the Resettlement Action Plans will be included in the corresponding Budgets of each relevant Contractor.

5.10. Monitoring and Reporting

The Contractor prepares reports on the implementation of the requirements of the LESMP and RAP (the form of the Report is given in Appendix 10), as well as on implementation of the contract for the PMU once every three months during the phases of the project cycle of subprojects: preparation of project documentation, during preparatory work and operation, which will be collected by the Coordinators of the components, and on a quarterly basis, in a consolidated form for each component, and submitted to the management of the PMU.

During construction, the PMU conducts supervisory Compliance Oversight at construction sites once every three months. Supervisory checks (monitoring) are conducted by the Component Coordinators, upon the decision of the PMU management, the Expert may be included in the monitoring committee. Based on the results of the supervisory checks, the Coordinators, in conjunction with the Expert (if he/she participated in the check), will prepare Reports on environmental and social supervision / monitoring (the form of the report and the Checklist are given in Appendix 9.) for the management of the PMU.

In addition, all reports on environmental and social safety measures will be included in the quarterly reports on the activities of the Project and submitted to the World Bank within the framework of standard reports on project supervision.

5.11. Public Disclosure

The World Bank's Policy on Access to Information (2015) requires the disclosure of any information in the Bank's possession that is not on its list of exceptions, such as environmental and social safeguard documents related to the operations that the Bank is considering to finance, such as the Digital CASA- the KR Project.

The Environmental and Social Management Framework and the Resettlement Policy Framework will be disclosed at three websites in English and Russian:

- the State Committee of Information Technology and Communication of the Kyrgyz Republic
- the Government of the KR
- the World Bank

Public hearings were held in the State Committee of Information Technology and Communication of the Kyrgyz Republic for informing stakeholders about the framework documents, procedures and tools for managing the environment and social matters and the resettlement policy guidelines that will form the basis of the project documentation within the framework of the Digital CASA-the KR project.

On July 13, 2017, there was an extended meeting of representatives of the SCITC of the KR, the PMU and the EcoPartner LLC (developers of the documents under review) with representatives of the Government Office of the Kyrgyz Republic, the Association of Telecommunications Operators, the State Agency for Architecture and Construction under the Government of the Kyrgyz Republic, the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic, the State Agency for Local Self-Government and Inter-Ethnic Relations under the Government of the Kyrgyz Republic, Internet providers, telecom operators, NGOs and associations of forest and land users of the KR. In total, 34 people took part in the meeting (meetings minutes, list of participants and photographs are provided in Appendix 10.).

In general, participants provided positive response on information presented.

All participants were informed of the possibility of feedback on the provided information and submission of their proposals and comments to the developers and / or SCITC of the KR.

5.11.1. The procedure for informing stakeholders (stakeholders engagement)

In the process of developing the project documentation for each subproject, it will be mandatory to inform/engage the stakeholders on the procedures and tools used by each subproject for managing the environmental and social matters at all phases of subproject implementation and grievance procedures.

List of stakeholders

(For each subproject, the list of stakeholders can be amended, based on their presence at the work site):

- local population at the work site;
- local self-government bodies near the settlements located to the site of work;

- bodies of the local State Administration near the settlements located to the site of work;
- regional state organizations whose functions include issuing permits for the use of natural resources and conducting construction works, as well as monitoring of environment;
- Farmers
- NGO
- industrial / agricultural enterprises, other commercial structures and private entrepreneurs, whose facilities are located on the FON construction site;
- etc.

Purpose of carrying out activities on informing stakeholders:

To familiarize with planned works structure within the framework of the Project and subprojects. To explain the mandatory principles, mechanisms for environmental and social protection used at the implementation of the subproject. To familiarize with applicable procedures and terms of implementation of the RAP. To provide stakeholders' grievances redress mechanisms and procedures. In case there are several settlements within the subprojects, activities on informing stakeholders should be carried out in each of them.

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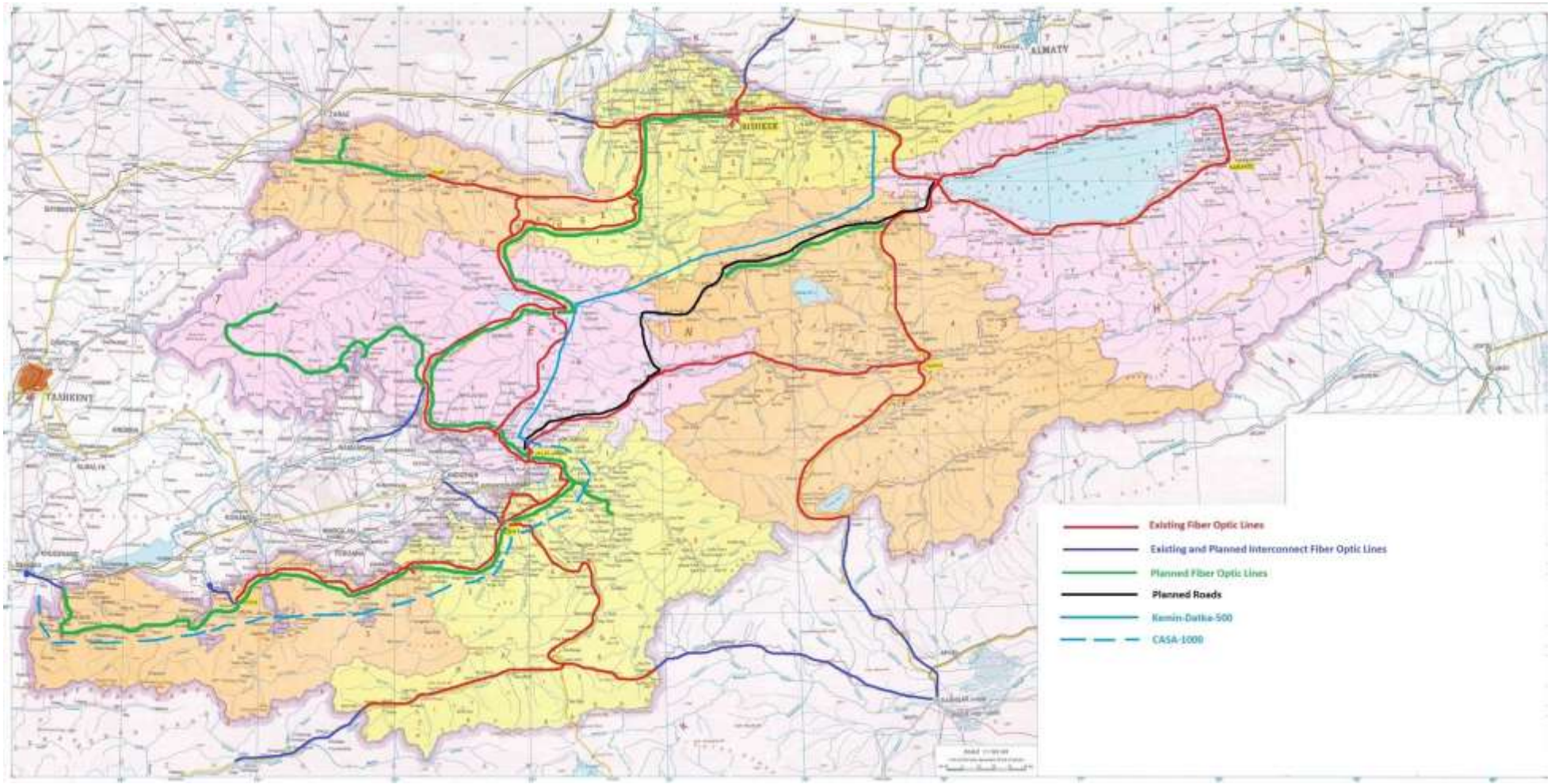
Appendixes

Appendix 1. Existing and proposed fiber-optic cable networks in the Kyrgyz Republic



Appendix 2. Potential negative environmental and social impacts and risks of the DIGITAL CASA- the KR Project

Impacts and risks	Measures aimed at the mitigation of impact
Soil erosion: Loss, damage or destruction of soil with the possible introduction of sediments into watercourses because of trench and plant cleaning.	• Preliminary installation and regular maintenance of drainage and outlet structures, sediment traps; Drainage outlets for discharge into relief or into the irrigation canals, if possible; Vegetation along the watercourses and drainage lines should be preserved, if it is possible. • Preserve the fertile and vegetative layer of soil for restoration (including soil reclamation). • The soil extracted during the trenching operations should be used for their backfilling. • Careful scheduling of work (total duration and seasonality). • Clear demarcation of design drawings when impact on the plant world is performed, if the vegetation is to be affected. • Minimize the cleared areas and the disturbance of the soil, with the restoration of vegetation, as soon as possible.
Water and soil contamination and landscape degradation: • Digging the trenches and clearing of vegetation can create open areas. • The buried drainage can affect the quality of water in downstream water courses. • The release of hazardous substances associated with the construction and operation or with the transportation of materials (for example due to accidental spills and leaks) can lead to the contamination of soil, surface or groundwater. • Inefficient handling of waste during the construction and operation can lead to inadequate disposal of solid (domestic and construction) and liquid waste that can pollute soils and watercourses, and which as well can visually degrade natural and artificial landscapes.	• Training staff in waste management and segregation. • Separate containers for the storage of waste with the appropriate signs (hazardous or non-hazardous) should be installed on construction sites. • No debris, waste, oily waste, fuel, waste oil or removed / excess materials (for example, asphalt, sidewalks, scrap metal, etc.) should not be discharged to sewers, left on the sections of trails, natural areas or banks of watercourses. • If it is possible, reuse of deleted / destroyed materials (for example, asphalt, sidewalks, scrap metal, etc.) or its transfer to the local population if they need it. In addition, thorough cleaning of the plots from the remaining / redundant materials that are not reused or transferred. • The introduction of the appropriate storage areas for new and used combustive and

Impacts and risks	Measures aimed at the mitigation of impact
	lubricating materials and hazardous materials (for example, on the trays) to prevent spills and leaks. • Rapid and safe disposal of soils contaminated by hydrocarbons. • Hazardous and oily waste is collected and disposed of by the licensed waste disposal organizations. • Implementation of the procedures for controlling the transport and storage of hazardous substances (for example, the organization of chemical products and their storage with limited access, monitoring the relocation of each chemical, etc.). • Keep records of waste production (i.e., Type of waste, hazardous or non-hazardous, weight or volume, properties, location, etc.).
Pollution of water sources: Entry into the environment of combustive and lubricating materials, dirt from cars, organic waste in surface and ground water.	• Maintenance and washing of vehicles, trucks and equipment must be carried out outside the construction site. The introduction of a ban on washing the vehicles in watercourses is mandatory. • Do not allow to spill engine oil and gasoline. Only properly functioning vehicles should be used. • For the build laborers bio toilets, must be provided on the construction sites.
Air pollution: The emissions of dust and exhaust from small-scale construction works, as well as the movement of construction machinery and trucks, can affect human health.	• During the pneumatic drilling / breaking of hard rocks, the dust should be suppressed by continuous spraying of water and / or by installing protective screens against dust on the site. • The environment (sidewalks, roads) should be kept free from the debris to minimize dust. • There will be no open burning of construction debris / waste materials on the site. • There will be no excessive downtime of construction equipment on the sites. • Vehicles delivering small materials, such as sand and small aggregates, should be covered to

Impacts and risks	Measures aimed at the mitigation of impact
	reduce spills on the roads. • Do not use the construction equipment, as well as rail self-propelled vehicles with the damaged engines; In addition, there should not be a long idle running.
Noise and vibration: • The use of earth-moving equipment and heavy vehicles can create noise and vibration. • The excessive noise can be unpleasant for the local communities and businesses. In addition, noise can affect wildlife when an optical cable is laid near the natural areas. • Vibration from the sealing trenches can split the walls of the structures adjacent to the work sites	• Construction noise will be limited by the time agreed upon in the resolution with the local self-government bodies. • During the operation, the engine cover of generators, air compressors and other operating mechanical equipment must be closed and the equipment should be placed as far away from residential areas as possible. • Construction equipment will strictly comply with the noise standards; Vehicles and equipment used must be equipped with exhaust silencers and should be checked regularly. In residential areas, near the settlements, the equipment will not stand idle, maintenance of heavy construction equipment in strictly designated areas, identify the routes and access roads where construction and heavy equipment will be passing. Compliance with the speed limitations while crossing the settlements, the limitation of working hours in periods determined by local authorities, in the case of acoustic emissions in a certain direction, use acoustic barriers (screens) to refract the line of influence from the noise source to the population. • Workers needed to be provided with the earplugs. • Suitable noise barriers or window panes will be installed in places where the noise is produced during a long period, if the MAC (maximum allowable concentration) is exceeded.
The slowing of the traffic, the creation of dangerous driving conditions and preventing access: Potential congestion, the creation of dangerous driving conditions and preventing access to houses, businesses and public services during trenching and cable laying operations.	• The activities for laying out the fiber optic links on the roads, as well as the movement of vehicles and trucks, should be planned outside of the working hours to avoid traffic congestion and danger. • Use safe traffic control measures, including

Impacts and risks	Measures aimed at the mitigation of impact
	temporary road signs and flags, to alert the locals of dangerous conditions and deviations in traffic. • Only experienced and trained drivers / operators should maintain / operate construction machinery, trucks and equipment.
The interruption of water supply, telephone or Internet services: The excavations and the removal of the materials activities (pavement, sidewalks, soil, etc.), necessary for laying out of the fiber optic cable, can accidentally destroy pipes, lines and cables, which will lead to the interruption of services supply until the corresponding infrastructure is repaired.	• Consultation and coordination between the Contractors, SCITC / PMU and utility enterprises for planning and performing the work, including an overview of maps / drawings with the location of pipes and lines to avoid accidental disruption of the service infrastructure. In Kyrgyzstan, based on the Government of the Kyrgyz Republic, the Coordination Council for Macroeconomic and Investment Policy under the Government of Kyrgyzstan has been established, which coordinates the interdisciplinary processes during the implementation of the Digital CASA project - the Kyrgyz Republic. • Development and adoption of the procedures, in the event of accidents, to ensure the mobilization of relevant services.
Temporary restriction of access to commercial and institutional establishments and to residential properties: The operations for excavating and back filling of the trenches necessary to lay out of an underground fiber-optic cable can: • Partially affect crops and fruit trees, as well as ornamental vegetation. • Temporarily hinder access to commercial and institutional establishments, as well as to residential buildings.	• Due to the partial impact on the used facilities and areas with ornamental vegetation and fruit trees, compensatory measures are determined for the affected parties in accordance with the Resettlement Policy Framework (RPF) for the Project. • To temporarily restrict access to the commercial and institutional establishments and residential buildings, careful planning of the construction work is carried out to minimize the duration of the exposure.
Danger to health and safety hazards can emerge during the following activities: • Trenching operations for the laying out of the fiber-optic cable. • Installation of equipment on existing ICT (Information and Communication Technology) platforms to enhance capabilities and improve efficiency.	• Carry out a risk assessment at the construction site, and develop and implement measures specific to the hazards identified. • Educate employees in safe working methods. • Ensure the use of appropriate personal protective equipment (PPE) at work sites, including, if applicable, helmets, overalls, enhancing visibility vests, protective boots,

Impacts and risks	Measures aimed at the mitigation of impact
• The construction and repair works of telecommunications connections and other facilities.	gloves, etc. • Implement a system for tracking and responding to accidents, incidents, errors and deaths. • Except for areas surrounded by the fence, all active construction sites should be marked with a high visibility tape, in particular open trenches, to reduce the risk of accidents involving workers, pedestrians and vehicles. • All open trenches and excavated areas should be filled up as soon as possible after the completion of the cable lay out and construction works. • Upon the completion of the work, to clean the site of unnecessary and unused materials and control access to active construction sites. • Sign boards and indicators should be used at construction sites. • Provide measures to reduce the possible risk of permanent eye damage due to laser radiation during cable connection: ▪ Educate workers in safety measures related to working with laser beams. • Provide measures to reduce the possible risk of penetration of microscopic fragments of fiberglass into the working clothing, skin or eyes, or by swallowing or breathing: ▪ Training the employees on how to work with the optical fiber. ▪ Prepare and implement safety procedures when handling optical fiber. ▪ Avoid contact with optical fibers, by using protective clothing and by separating the place of work and areas where the food is taken. • Observe fire safety when working with the easily flammable materials in high-power laser installations: • Ensure the implementation of safety measures during the work associated with the fall of objects / materials / tools:

Impacts and risks	Measures aimed at the mitigation of impact
	▪ The area around which dangerous work is performed should be protected to prevent unauthorized access. The work of other personnel near the hazardous work site should be avoided. ▪ Lifting equipment must be certified and pass technical verification, and workers should have permission to the use of this equipment. ▪ Stairs should be used in accordance with pre-established safety procedures (correct placement, safety anchorage, stability). • To reduce the risk of falling when working at height: ▪ Compliance with the safety procedures, which includes training in working methods at height and the use of fall protection measures; Compliance Oversight, maintenance and replacement of fall protection equipment; And, in particular, the salvation of the fallen workers. ▪ The provision of an adequate system for the protection of the workplaces for workers. ▪ The protective belts must be at least 16 mm (mm). ▪ Ropes should be 5/8 inches (1.6 cm) in diameter, made of bicomponent nylon or equivalent strength material. Protective belts should be replaced before the signs of aging or wear of the fibers appear. ▪ When operating electric tools at altitude, workers should use a second (reserve) protective belt. • To reduce the risks associated with the limited space when performing manual drilling operations: ▪ To develop and implement security procedures when working in a confined space, including: require work permits for all types of

Impacts and risks	Measures aimed at the mitigation of impact
	work in confined spaces; Establish appropriate means to monitor the implementation of prohibitive standards for personnel who do not have the appropriate permit; Before access it is necessary to use the ventilation and analysis system of oxygen / explosive and signaling. • See also traffic jams, creating dangerous driving conditions and obstacles for traffic, indicated above.
Community Health and Safety: • Danger to public health and safety when performing work (laying out the fiber optic cable, transporting materials, etc.). • The contact of contractor workers with the local communities where the work will be performed can increase the number of sexually transmitted infections (STIs), including human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS), as well as infectious diseases.	• With the exception of the fenced territories, all active construction sites should be marked with high visibility tape, in particular open trenches, to reduce the risk of accidents involving pedestrians, workers and vehicles. • All open trenches and excavated areas should be covered as soon as possible after the completion of the cable laying out and construction activities. • Sign boards and indicators should be used at construction sites. • The control of access of unauthorized personnel and people to active construction sites should be carried out. • Training and raising the awareness of local communities and workers on HIV / AIDS and other STIs and infectious diseases. • Develop and implement a Code of Good Conduct for all the employees, including the acceptable behavior with regard to community engagement. • See also traffic jams, creating dangerous driving conditions and obstacles for traffic, indicated above.

Project Components	Positive impact
Component 1: Digital Infrastructure	•The creation of temporary jobs during the laying out of fiber optic cable, possible construction and repair of the buildings, as well as the installation and modernization of ICT equipment and services. To enhance this positive impact, unskilled labor will be recruited exclusively from the local communities, and to semi-skilled work will also will be attracted mainly the local population, if they have the necessary skills, competence and desired experience. •Temporary increase of local economic activity along the FOCL routes, where services, and materials will be in demand as well as the goods from the external suppliers (for example, fuel, food, etc.). To enhance this positive impact, the Project will facilitate local procurement where it is technically and economically reasonable and feasible. In addition, the contractor organizations can purchase materials (sand, gravel, crushed stone, etc.), where it will be necessary. •A new and effective link with the neighboring countries will improve trade and regional security. •The expenditure of the opportunities for Internet access to businesses, schools, hospitals, local governments, law enforcement agencies, will: ▪ Improve the delivery of health services; ▪ Provide an opportunity to enhance the effectiveness of education for remote regions; ▪ Increase the capacity for law enforcement and rapid response to emergency situations in remote regions; ▪ Significantly increase the use of the national fiber optic main line.
Component 2: Digital platforms and intelligent solutions	• The transformation and the improvement of the provision of public services using ICT-based platforms will allow to reduce costs, improve information exchange and increase the speed of public service delivery. • Improving the connectivity options in remote regions of the KR and improving the efficiency of public service delivery will lead to intra- and inter-information exchange between the state institutions and the population, increased dissemination of information to the public, simplification of decision-making and greater transparency in government

Project Components	Positive impact
	decision-making, streamlining of public procurement processes and the reduction of costs in public institutions when providing services to the public (due to a reduction in the purchase of paper, office supplies, etc.). • The expansion of technical capacity and business opportunities in the ICT sector through the activities aimed at the development of the information technology industry and the increase of educational activities in the field of ICT (this includes young people and women, particularly in remote areas).
Component 3: Enabling environment for the digital economy	Institutional development and the strengthening of human potential will help to create favorable conditions that will encourage: • Creation of jobs. • More efficient provision of public services. • Enhancing the opportunities in all sectors. • Promotion of cross-border linkages. • Regulatory development in such areas as: e-government, cyber security, interoperability and solutions for the use of common infrastructure with the neighboring countries; • National and regional economic development.
Component 4: Project Management and Digital Leadership Development	• Short-term and medium-term employment opportunities for qualified professionals in the sphere of procurement, monitoring and evaluation (supervision), as well as environmental and social security. • Establishment and management of a strategic partnership with local and foreign government agencies, donors, NGOs and other organizations. • The involvement of the public concerned to inform and to track the results of the Project.

Appendix 4.

Check-list of pre-screening process

"sensitive receptors" including humans	activities to sub-project		
	construction and assembly work	put into operation	operate of the optical fiber communication links
Physical			
Water (surface and groundwater)			
Fertile - vegetative layer			
Underground layers			
landscape			
On air (quality)			
Noise			
Vibration			
Fauna / Flora			

"sensitive receptors" including humans	activities to sub-project		
	construction and assembly work	put into operation	operate of the optical fiber communication links
The Mammals			
The Reptiles			
The Birds			
The Reptiles			
The ichtyofauna			
Vegetation and ecosystems			
People			
Local communities			
Local / regional economy (including workers and enterprises)			
agricultural operator (owners, farmers, tenants and employees)			
historical-cultural an objects			

Appendix 5. Methodology for the assessment of potential environmental risks and impacts of the project

The methodology of the potential environmental risks and impacts of the project is based on the determination of the spatial scale of the impact, the time scale of the impact and the significance of changes resulting from the impact, the transfer of qualitative characteristics and quantitative values of these indicators to scores according to Tables 1-3[23].

Table 1

Determination of spatial scale impact indicators

Gradation of impacts	Score of evaluation
Local: the impact on the environment within the site of the object location of the planned activity	1
Limited: the impact on the environment at up to 0.5 km from the site of the object location of the planned activity	2
Local: the impact on the environment within a radius of 0.5 to 5 km from the site of the object location of the proposed activity	3
Regional: the impact on the environment within a radius of more than 5 km from the site of the object location of the planned activity	4

Determination of the time scale of exposure

Gradation of impacts	Score of evaluation
Short-term: exposure, observed during a limited period up to 3 months	1
Medium duration: an impact that manifests itself within from 3 months up to 1 year	2
Long-lasting: the effect observed for an extended period - from 1 year up to 3 years	3
Long-term (permanent): the effect observed for more than 3 years	4

Table 3

Determination of indicators of significance of changes in the natural environment (outside the territories under technical structures)

[23]Based upon the Methodology recommended in the Decree of the Government of the Kyrgyz Republic dated February 13, 2015 No. 60 "On the Approval of the Regulation on the Procedure for Conducting Environmental Impact Assessment in the Kyrgyz Republic"

Gradation of impacts	Score of evaluation
Insignificant: the changes in the environment do not exceed the existing limits of natural variability	1
Weak: Changes in the natural environment exceed the limits of natural variability. The natural environment is fully self-healing after the cessation of the exposure	2
Moderate: changes in the natural environment, exceeding the limits of natural variability, lead to the violation of its individual components. The natural environment retains the capacity for self-recovery	3
Strong: changes in the natural environment lead to significant disturbances in the components of the natural environment. Some components of the natural environment lose the ability to self-recovery	4

A general assessment of the significance is made by multiplying the scores for each of the three indicators. In addition, weighting coefficient can be introduced for the significance of each indicator in the overall assessment. Sub project evaluation is carried out according to the maximum value of the presented indicators[24]. Impact mitigation measures are developed for all indicators that have scores higher than 0. With an emphasis on the greatest impact (greater score in the assessment of significance) while performing the monitoring (ESMP) of work within the framework of the sub project.

The number of points, within the range of 1-8 points, characterizes the impact as an impact of low significance, 9-21 points - the effect of medium significance, 28-64 points - the impact of high significance.

[24] For example: if one indicator (impact / risks) has a product of 16 points (overall significance score), and the other two make up 4 and 4, then in assessing the subproject, for assessing the significance of the impact, in this case, it takes -16 points (subproject which has such an impact, has an impact of average significance and passes to the next stage of selection).

Specifications of the objects

location of the sub-project (By administrative division: oblast, district, village)	
Name of component	
Tasks of the component	

PART 1: General information about the Project and the building site

ORGANIZATIONAL AND ADMINISTRATIVE ARRANGEMENTS POSSIBLE				
Organizational terms	Name of The Project Project Manager		Name of the sub-project	
Delivery mechanisms	Developer:	The oversaw measures by environmental safety:	Contractor: **(Determined by the results of the tender)**	The oversaw measures by environmental safety:
DESCRIPTION OF THE WORK'S SITE				
Name of the object				Site map
The owner of the land (or land operator)				
Description of design works (type, volume)				
Description of the issues of geographical, physical, biological, geological, ecological and socio-economic nature	Relief of the site: Ground surface: Plant cover: Water bodies: Crossing of central roads: Access roads: Servitude: The presence of asbestos materials: The Presence of historical and cultural objects: Thr availability of facilities for resettlement and compensation:			
Location and distance from residential areas, from the point of material supply	Quarries of inert materials (sand, gravel, clay): Power supply for the object of work: Sources of water for the work object:			
LEGAL PROCEDURES				
The policies of the World Bank and	• OP 4.01 - Environmental Assessment			

[25] The check-list of the LESMP is prepared if, when assessing the subproject, it was identified that there are few or no irreversible consequences (the consequences depend on the specific location of the subproject).

National legislation and permits that apply to activities of project	• OP 4.12 - Involuntary Resettlement • Law of the Kyrgyz Republic on Environmental Protection (2016) • Law of the Kyrgyz Republic on Environmental Expertise (2015) • Law of the Kyrgyz Republic General technical regulation on environmental safety in the Kyrgyz Republic (2012) • Law of the Kyrgyz Republic on production and consumption wastes (2001) The Contractor shall be responsible for: • obtaining permission to conduct construction work from the territorial administration for urban planning and architecture; • conclusion of a contract with the local authority for the placement of construction debris at the landfill site.
PUBLIC CONSULTATIONS	
Where? When ?	.
DEVELOPMENT OF INSTITUTIONAL CAPACITIES	
Is capacity development planned? Conducting training (workshop)?	[ ] No or [ ] Yes

PART 2: Assessment of environmental and social impacts

	Sub-project phases and examples of possible impacts	Status - if yes, please specify	Additional links
Can planned activities / measures on the site , directly or indirectly, contribute to any of the following problems and / or impacts:	1. Design *For example:* • *Issuance of permits* • *Preparation of technical documentation* • *Informing the public about planned work*	[ ] Yes [ ] No	
	2. Preparation for construction activities *Например:* • *Discussions with the people (RAP)* • *Making a servitude* • *Rent of accommodation for workers* • *Coordination of planned work with the local authority*	[ ] Yes [ ] No	
	3. Construction and laying of fiber-optic links		
	4. Operation and maintenance of fiber-optic links		
	5. Occupational health and safety for workers during construction	[ ] Yes [ ] No	
	6. Ensuring traffic safety and pedestrians	[ ] Yes [ ] No	
	7. Historical and cultural objects	[ ] Yes [ ] No	-
	1.Registration of land resources for the sub-project [26] *For example:* • *Use of private property* • *Temporary relocation due to project activities* • *Measures of involuntary resettlement* *2.Impacts on income / livelihoods of local people and commercial structures*	[ ] Yes [ ] No	-

[26] Land acquisition (land allocation) for design works includes resettlement of local population; Changes in the means of life of the local population; Invasion on the territories that are privately owned. This applies to plots of land that are acquired or transferred to the project, and such acquisitions or transfers of land are related to the impact on people who live officially and / or informally on this land and / or engage in some kind of business on it (for example, there are booths).

	Sub-project phases and examples of possible impacts	Status - if yes, please specify	Additional links
	Hazardous or toxic materials 27	[ ] Yes [ ] No	
	8. Impacts on the forests and / or other protected territory *For example:* *• Impact on the territory of protected forest areas, buffer and / or other protected areas* • *• anxiety for the local natural habitat of protected animals*	[ ] Yes [ ] No	

PART 3: Mitigation plan to adverse impact

Phase	Activities / Options	The check-list of mitigation measures (indicate appropriate and add if necessary)
A. Construction Preparation Phase	warning, instruction and safety of the workers	(a) Compliance Oversight, monitoring construction work and environmental safety, as well as the local people are properly informed about the upcoming project's work. (b) The local public is duly notified about planned operations by means of announcements (including on the work site). (c) Obtained of the required of the legislation permits for the production of construction works (use of natural resources, waste dump, etc.) (d) All work must be carried out in the safest possible way and be organized in such a way as to minimize the negative impacts on local people and the natural environment. (e) Individual means of protection of workers must meet the safety standards of work (with mandatory constant wearing of helmets, protective masks in those conditions, where necessary, protective glasses, safety belts and safety shoes). (f) On the site, there should be proper index and information signs informing workers about the basic rules and norms of work that must be performed. (g) If the Contractor attractsexternal staff to the repair and construction work, which will be permanently on site, all the necessary living conditions must be created for them, as well as food is organized.

[27] К работам с токсическими и/ или опасными материалами относятся, в частности, работы с асбестом, ядовитыми красками, работы по снятию красок с содержанием свинца и пр.

Phase	Activities / Options	The check-list of mitigation measures (indicate appropriate and add if necessary)
B. Construction phase	Atmospheric air	(a) Building debris should be accumulated in a specially designated place with subsequent removal to a landfill. (b) Keep clean at the construction site and the surrounding area. (c) It is forbidden to burn construction waste on an open fire at a construction site. (d) Do not allow excessive accumulation of construction equipment on the construction site, which operates at idle.
	The soils and landscapes.	(e) Work on the corresponding category of land for the planned work; (f) Early installation and regular maintenance of a drainage structures for groundwater and surface water, if possible; (g) Vegetation along watercourses and drainage lines should be preserved, if possible; (h) Preservation of the fertile and vegetative layer of soil for restoration (including reclamation); (i) Remote land from trenches should be used for backfilling; (j) Careful scheduling of work (total duration and seasonality); (k) Clear demarcation of design drawings when impact on the plant world, if the vegetation is affected; (l) Minimization of violations of the fertile and vegetative layer, with the restoration of vegetation, as soon as possible; (m) Reuse of deleted / destroyed materials (for example, asphalt, sidewalks, scrap metal, etc.) or transfer them to the local population if they need these materials. In addition, thorough cleaning of the sites from the remaining materials that are not reused or not transferred; (n) Rapid and safe disposal of hydrocarbon contaminated soils; (o) Hazardous and oily waste is collected and disposed of by licensed waste disposal organizations; (p) Implementation of procedures for the control of the transport and storage of hazardous substances (for example, the organization of storage of chemical products with limited access, monitoring the movement of each chemical, etc.).

Phase	Activities / Options	The check-list of mitigation measures (indicate appropriate and add if necessary)
	The noise and vibrations	(a) The production of works related to noise and vibration is allowed only at specified time intervals from 8:00 to 18:00; (b) During the work, shrouds and hoods on engines of generators, air compressors and other machines and mechanical devices must be put on and closed, and these machines and mechanisms must be located as far as possible from residential buildings.
	The waste management	(a) For construction debris, prepare the places of its temporary storage and its subsequent removal to a local landfill; (b) If possible, the contractor shall ensure the secondary use of the relevant applicable and resistant materials (prohibit the use Asbestos); (c) Household and food waste from the Contractor's produced by the working personnel must be separated from construction waste and placed in special containers, which, as they are filled, must be transported to the local landfill; (d) No debris, waste, oily waste, fuel, waste oil or excess materials (for example, asphalt, sidewalks, scrap metal, etc.) should not be discharged to the sewage system, should not be left on sections of the trails, natural areas or banks of watercourses.
	The pollution of water	(e) education of personnel on waste management is necessary; (f) New and spent fuel and hazardous materials must be stored in appropriate zone (eg on pallets) to prevent spills and leaks; (g) On all existing reservoirs with the flow waters (rivers, irrigation ditches, canals including irrigation canals), culverts should be installed to support the natural drainage of the territory, where there is a need.
Slowing traffic, creating dangerous driving conditions and preventing access:	Direct or indirect hazards to the means of transport and pedestrians during construction	(h) The contractor must ensure proper protection of the building site; (i) Equip the site with information and warning signs, fences to ensure that the site of work was visible, and and people could be duly notified and warned of possible dangers; (j) Measures for laying fiber optic links on the roads, as well as the movement of vehicles and trucks, should be planned outside of working hours to avoid congestion and danger;

Phase	Activities / Options	The check-list of mitigation measures (indicate appropriate and add if necessary)
		(k) Use safe traffic control measures, including temporary road signs and flags, to warn of dangerous conditions and changes in traffic; (l) The contractor must use only experienced and trained drivers to operate construction machines, trucks and equipment.

PART 4: MONITORING PLAN

Phase	what (Is there a need for parameter monitoring?)	Where (Is there a need for parameter monitoring?)	how (Is there a need for parameter monitoring?)	When (Specify frequency of checks and their duration)	Why (Is there a need for parameter monitoring?)	Expenses (If it is not included in the budget of the project)	Who (Responsible for monitoring?)
DESIGNING STAGE	Conformity of the Design and budget Documentation to the requirements of the World Bank (LESMP and RAP)	In the reports and the final design document prepared by the project company.	Review of reports prepared by the Contractor.	Before the examination and approval of project documentation	To ensure that all necessary requirements are included in the project documentation.	financed from the budget of the contractor	the Contractor
Construction Preparation Phase	Compliance by the Contractor with the requirements of the LESMP and RAP	Construction site	• Review of reports prepared by the Contractor • Compliance Oversight at construction sites during the examination of complaints from PAP.	1 just before the start of construction works (but not less than 1 time in 3 months), or when considering the complaints received.	To ensure the implementation of all the necessary requirements of the LESMP and RAP.	Should be included by the Contractor in the tender offer	the Contractor and PMU

Phase	what (Is there a need for parameter monitoring?)	Where (Is there a need for parameter monitoring?)	how (Is there a need for parameter monitoring?)	When (Specify frequency of checks and their duration)	Why (Is there a need for parameter monitoring?)	Expenses (If it is not included in the budget of the project)	Who (Responsible for monitoring?)
Construction works	Compliance by the Contractor with the requirements of the LESMP and RAP	Construction site	• Compliance Oversight at construction sites during the examination of complaints from PAP.at construction sites; • Report on environmental and social monitoring to the PMU; • Receipt of complaints from PAP.	• During construction and putting into operation; • Once every three months; • In the case of complaints from PAP prior to resolving the issue (when considering the complaint).	To ensure compliance with all necessary environmental and social requirements.	Should be included by the Contractor in the tender offer	the Contractor and PMU
Operation phase	Compliance by the Contractor with the requirements of the LESMP and RAP	FOCL objects	• Review of reports prepared by the Contractor; • Compliance Oversight at construction sites during the examination of complaints from PAP. at construction sites during the examination of complaints from PAP.	• Once every three months;	To ensure compliance with all necessary environmental and social requirements.	Should be included by the Contractor in the tender offer	the Contractor and PMU

PART 5. PROCEDURE FOR PROCESSING APPLICATIONS

Procedure for processing applications and proposals should include all the procedures reflected in Section 5.8 of this ESMP and be the same for all subprojects for which will be developed in theLESMP.

Appendix 7.

Environmental and Social Management Plan

Environmental and Social Management Plan (**ESMP)** consists of mitigation measures, a monitoring program and organizational measures that are taken during the stages of design, construction planning, construction, operation and maintenance phases of the FOCL in order to avoid adverse environmental impacts, reduce them to acceptable levels. The plan also includes the actions necessary to apply these measures.

After site identification for each specific subproject a local environmental and social management plan (LESMP) will be developed. The number of such plans will correspond to the number of subprojects with medium significance. It is these plans that will take into account local specifics and contain a list of necessary activities.

This section provides recommendations on what will be included in the LESMP.

The LESMP model recommended here (Form 1) will be used after the approval of the route and the construction sites in each specific case when defining the project sites and facilities. The development of the LESMP will be carried out by the expert on environmental and social issues, in accordance with subprojects for laying out fiber-optic communication lines on the sites. When developing the LESMP, it is necessary to take into account the recommended model and complement it as necessary (changes in project decisions, presence of additional impacts, etc.).

LESMP is divided into four stages: design, preparation of construction, construction, operation and maintenance of fiber-optic communication links. During the installation seminar held by PMU with experts on environmental and social issues, contractors are informed of the details of how to mitigate the identified adverse impacts, in the framework of subprojects, from fiber-optic cable laying, cuts and coverage, placement of excavated material, ensuring safe passage of sites at river crossings, temporary interruption of services, health and safety of workers and the local population. During the construction, mitigation measures are recommended to control noise, vibration and pollution of groundwater, etc.

The main goal of LESMP is to provide appropriate mitigation of various adverse impacts

associated with the project. The conditions for the LESMP implementation should be fully reflected in the contracts concluded between PMU and contractors, and their implementation must be monitored by the PMU.

The objectives of the LESMP at the various stages of project planning and implementation are as follows:

Design Phase

- Compliance with the requirements of the Legislation of the Kyrgyz Republic and the operational policies of the World Bank;
- Environmental and social studies of the areas;
- Preparation of relevant project proposals and design and estimate documentation.

Preparation of Construction Phase

- Maintenance of tender documents, preparation of contracts (including all requirements of LESMP and other project solutions);
- Establish the roles and responsibilities of all parties involved in the Environmental Management Project;
- Implementation of the RAP;
- Supervision of the implementation of the LESMP and the RAP for the implemented sub-projects.

Construction Phase

- Prevent and reduce the negative impacts of the subproject on the environment by the LESMP activities;
- Ensure the implementation of recommended actions aimed at enhanced environmental management;
- Make sure that the LESMP requirements are strictly observed and executed in the framework of subprojects;

- Make sure that when implementing subprojects, the impact on the local population does not exceed the permissible, and the interests of the population, including other interested parties, are met

- Supervision of the implementation of the LESMP and the RAP for the implemented sub-projects.

Phase of operation and maintenance of fiber-optic communication links FOCL (after the construction

- Prevent the deterioration of the components of the environment at the completion of construction and do not allow environmental and social impacts during the necessary (planned and unforeseen) repair and maintenance works - air, water, soil, noise, etc. more than necessary for the planned work;

- Supervision of the implementation of the LESMP and the RAP for the implemented sub-projects.

Environmental and Social Monitoring Plan (ESMoP)

Environmental and Social Monitoring Plan (ESMoP) - this is an important component of the environmental management associated with the planed work. Effective implementation of ESMoP is realistic in case of designing and implementing an effective monitoring program. ESMoP has wide objectives:

- Confirm the estimated expected impacts based on the selected parameters and determine the actual impact scale, as well as the recording of the unforeseen impacts;
- Assessment of the implementation of mitigation measures proposed in the LESMP;
- Checking of the adequacy of environmental impact assessment;
- The proposal to improve the LESMP, if required;
- Strengthen the quality of the environment;
- Implementation of obligations and requirements regulated by the legislation of the Kyrgyz Republic, the World Bank and technical documentation.

ESMoP defines all the parameters of monitoring for all project stages and should be prepared at the design phase. The recommended ESMoP document model is presented in Form 2.

The development of ESMoP for subprojects will be carried out by the Environmental and

Social Expert in the development of the LESMP.

Reporting on the ESMoP implementation

The Contractor prepares reports on the implementation of the requirements of the ESMP and RAP (the form of the Report is given in Appendix 10), as well as on implementation of the contract for the PMU once every three months during the phases of the project cycle of subprojects: preparation of project documentation, during preparatory work and operation, which will be collected by the Coordinators of the components, and on a quarterly basis, in a consolidated form for each component, and submitted to the management of the PMU.

During construction, the PMU conducts supervisory inspections at construction sites once every three months. Supervisory checks (monitoring) are conducted by the Component Coordinators, upon the decision of the PMU management, the Expert may be included in the monitoring committee. Based on the results of the supervisory checks, the Coordinators, in conjunction with the Expert (if he/she participated in the check), will prepare Reports on environmental and social supervision / monitoring (the form of the report and the Checklist are given in Appendix 9.) for the management of the PMU.

In addition, all reports on environmental and social safety measures will be included in the quarterly reports on the activities of the Project and submitted to the World Bank within the framework of standard reports on project supervision.

Form 1

FORM OF LOCAL ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (LESMP)

General information about the sub-project and the building site

ORGANIZATIONAL AND ADMINISTRATIVE ARRANGEMENTS POSSIBLE				
Organizational terms	Name of The Project Project Manager		Name of the sub-project	
Delivery mechanisms	Developer:	The oversaw measures by environmental safety:	Contractor: **(Determined by the results of the tender)**	The oversaw measures by environmental safety:
DESCRIPTION OF THE WORK'S SITE				
Name of the object				Site map
The owner of the land (or land operator)				
Description of design works (type, volume)				
Description of the issues of geographical, physical, biological, geological, ecological and socio-economic nature	Relief of the site: Ground surface: Plant cover: Water bodies: Crossing of central roads: Access roads: Servitude: The presence of asbestos materials: The Presence of historical and cultural objects: Thr availability of facilities for resettlement and compensation:			
Location and distance from residential areas, from the point of material supply	Quarries of inert materials (sand, gravel, clay): Power supply for the object of work: Sources of water for the work object:			
LEGAL PROCEDURES				
The policies of the World Bank and National legislation and permits that apply to activities of project	• OP 4.01 - Environmental Assessment • OP 4.12 - Involuntary Resettlement • Law of the Kyrgyz Republic on Environmental Protection (2016) • Law of the Kyrgyz Republic on Environmental Expertise (2015) • Law of the Kyrgyz Republic General technical regulation on environmental safety in the Kyrgyz Republic (2012) • Law of the Kyrgyz Republic on production and consumption wastes (2001) The Contractor shall be responsible for: • obtaining permission to conduct construction work from the territorial administration for urban planning and architecture;			

	• conclusion of a contract with the local authority for the placement of construction debris at the landfill site.
PUBLIC CONSULTATIONS	
Where? When ?	.
DEVELOPMENT OF INSTITUTIONAL CAPACITIES	
Is capacity development planned? Conducting training (workshop)?	[ ] No or [ ] Yes

Form 1.1.

The environmental and social security

Environmental and social parameters	Impact	Proposed actions / mitigation measures (technical and organizational)	Institutional responsibility for mitigation actions / measures	Cost of mitigation actions / measures[28]
Construction				
Physical environment				
Noise and vibration				
Soil				
Water resources				
Atmospheric air				
Waste management				
Biological environment				
Fauna and flora				
Social environment				
Aesthetics and landscape				
Human communities				
Historical and cultural sites				
Safety and health of workers and the local public				

[28] The price will be determined at the next design development stage (after the route detalization)

Exploitation				
Physical environment				
Noise and vibration				
Soil				
Water resources				
Atmospheric air				
Biological environment				
Fauna and flora				
Social environment				
Aesthetics and landscape				
Human communities				
Historical and cultural sites				
Safety and health of workers and the local public				

The examples of possible activities for environmental and social security measures

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
Construction Phase					
Construction works					
Manual fiber optic cable installation	Correct disposal - placement of excavated soil Potential impact on groundwater safety Impact of noise and vibration, fear for safety; Impact on wildlife	As much as possible, re-use the excavated soil for back filling of the trenches without long-term storage Strictly observe the safety rules for mining operations. The warning will be announced to the local population Allocate only the daytime for works performed, taking into account migration, in order to minimize the interference with the wildlife.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

[29] The price will be determined at the next design development stage (after the route detalization)

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
Manual fiber optic cable installation by the cable laying vehicle	Impact of noise and vibration, fear for safety; Potential impact on groundwater safety Impact on wildlife	Allocate only the daytime for works performed, taking into account migration, in order to minimize the interference with the wildlife. Periodic spraying of water in the dry season nearby the local communities and settlements.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Excavation of soil-stones, trenches	Loss of vegetation Erosion of soil	Excavation will be carried out in accordance with the requirements of the Kyrgyz legislation. The upper layer of soil will be preserved for future use for the mound. Training of construction personnel on the issues of preservation and protection of nature and identification of key protected plants.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Works performed near water sources	Deterioration of water quality, potential erosion of river banks	To direct the method of establishing or the plan for the performance of works near water sources, including measures against harmful environmental impacts, such as riverbank erosion and silt formation in water sources due to such activities. The discharge of construction water with soil sediment (ie, from excavation sites) directly into surface water bodies will be prohibited. The water from construction activities will be discharged into sedimentary lagoons or reservoirs before its final discharge.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Monitoring of drainage and flooding	The blocking of the flow of water from any water source and the intersection of drainage channels	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will ensure that building materials such as soil, stones, ash or emissions will not be used to block the flow of water from any water source and cross the drainage channels. The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will take all necessary measures to prevent the flow of water. In addition to the project requirements, the	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will take all required measures, as indicated by the Environmental Expert to prevent temporary or permanent flooding of ditches or the adjacent area.			
Cable laying under existing roads by horizontal drilling / winding pipes	Loss of surface vegetation, soil erosion, disturbance of local movement and the protection of public safety	The access roads will use the existing rural roads as much as possible. The plan for access road will fully consider the use of the road by the local population. Passing roads will meet specifications with the proper erosion control and safety measures. Warning and safety signs used near settlements. It is necessary to provide access to the local population. Regular spraying of water in the dry season near the local communities and settlements.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Construction objects, movement of the materials	Noise impact on the nearest settlements	Transport used for the construction activities slows down when it passes through the towns and populated areas or settlements Use low-noise construction equipment. Noise monitoring will be carried out for sensitive areas during the construction activities Avoid the movement of traffic during the night time (22: 00-6: 00) in densely populated areas. - in case of the necessity for night construction activitiesit it is necessary to hold preliminary consultations with the near-living population. Permission will be obtained from the local authorities The announcement will be posted to inform the public and locals Noise monitoring will be carried out	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Pollution					
General construction works	Quality of air	During the pneumatic drilling / breaking of hard rocks, the dust	Contractor (responsible for	PMU	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		must be suppressed by means of continuous spraying of water and / or the installation of shields protecting from the dust on the site The environment (sidewalks, roads) should be kept free of debris to minimize the presence of dust There will be no open burning of construction debris / waste materials on the site There will be no excessive downtime of construction equipment on the sites Vehicles delivering minor materials, such as sand and small aggregates, should be covered to reduce spills on the roads. Do not use construction equipment, as well as rail self-propelled machines with damaged engines; Also, there should be no longstanding idle running of the engines.	Environment Protection (EP) and Safety Measures (SM))	Expert on Environmental and Social Issues	
	Noise, including vibration	Noise caused by the construction activities will be limited by the time agreed upon in the resolution During the operation of the generators, air compressors and other operating mechanical equipment the engine covers should be closed and the equipment should be placed as far away from the residential areas as possible Construction equipment will strictly comply with the noise standards; Transportation vehicles and equipment used must be equipped with the exhaust silencers and must be checked regularly. During any period in residential areas (near the populated areas) a system of servicing heavy construction equipment will be well organized to move along the certain routes and access roads, speed will be strictly observed at the intersection of routes with settlements, restriction of working	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		hours in periods determined by local authorities will be observed. In the case of acoustic emission in a certain direction, acoustic barriers (screens) will be used in order to break the line of action from the noise source to the receiver. Workers should be provide with earplugs; Suitable noise barriers or double-glazed window panes will be provided to the recipients of the noise.			
	Quality of water	Appropriate erosion and sediment control measures, such as, for example, sludge traps, will be installed on the construction site to prevent the sediment from moving outside the construction site and causing excessive turbidity in neighboring water bodies and rivers. On all the existing water reservoirs with a risk of current (rivers, irrigation ditches, canals including irrigation canals) culverts should be installed to support the natural drainage of the terrain.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
	Waste management	Removal of waste and the arrangement of sites and disposal areas will be identified for all major types of waste expected from demolition and construction activities. Mineral wastes from the construction and demolition activities will be separated from the general debris, organic, liquid and chemical wastes by sorting them on the construction site and keeping them in appropriate containers. Construction waste will be collected and exported properly by the licensed organizations. The records of waste removal will be retained as the evidence for proper management, as indicated in the project.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM)	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
Toxic materials	Asbestos management	If asbestos is located on the construction site, it should be clearly marked as a hazardous material Wherever possible, asbestos will be properly stored and sealed to minimize the exposure Before removal (if removal is necessary) asbestos will be treated with a wetting agent to minimize dust from asbestos Asbestos will be used and disposed of by qualified and experienced professionals If the asbestos is stored temporarily, the waste must be safely placed in closed containers and marked accordingly. Security measures will be taken against unauthorized removal of asbestos from the site. Removed asbestos will not be reused.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
	Toxic / Hazardous Waste Management	Temporary storage on the construction site of all hazardous or toxic substances will be in safe containers marked with information on the composition, properties and method of application Containers with the hazardous substances should be placed in a sealed container to prevent leaks and leaching Wastes should be removed by specially licensed carriers and disposed of in special licensed facilities Paints with toxic components or solvents, or lead paints will not be used.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Safety					
Operation on the construction site / Exploitation of construction equipment, service stations and fuel storage sites	Workers' health and soil / water pollution	Prior to the beginning of the construction activities, workers should be instructed on the safety rules for the use and storage of hazardous substances (combustive and lubricant materials, fuel, grease, natural asphalt, paint, etc.), as well as the cleaning of the equipment. During the preparation	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		process, the Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) must compile a short list of materials that will be used (quality and quantity) and provide a common understanding by explaining by teaching / giving a brief instructions to the construction workers. Store fuel and chemical stores away from water reservoirs Such structures will be limited and equipped with an impermeable lining in order to contain spills and prevent contamination of soil and water. Store and dispose of waste / waste oil in accordance with environmental official requirements. Remind all the workers to wear helmets all the time The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) should place information stands in appropriate places on all construction sites, with the necessary safety information, basic rules, etc., etc. in languages understandable to the workers. • Restoration of work sites: After the completion of the construction works, The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) must perform all the necessary works to return the workplace to its original state (removal and proper placement of all materials, wastes, installations, surface modeling if necessary, placement and leveling of the preserved topsoil).			
Safety of movement and pedestrians	Direct or indirect risks to public movement and pedestrians from construction	In accordance with the national regulations, the Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) guarantees the proper protection of the construction site and the regulation of the movement of the	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		construction equipment. This includes, but is not limited to, the installation of indicators, warning signs, barriers and traffic diversions: The construction site will be clearly visible and the population will be warned on all the potential hazards The system of organization of traffic and training of personnel, especially for access to the construction site and intensive traffic near the construction site. Providing safe passageways and crossings for pedestrians in the areas of movement of the construction equipment. Adjusting the working hours with the movement of the local transport, for example, preventing the main traffic during the peak hours or during the movement of livestock Active organization of traffic by trained and visible personnel on site, if necessary for safe and convenient passage of the population. Guarantee of safe and uninterrupted access to office premises, shops and places of residence during the construction works, if the buildings remain open to the public.			
Measures of personal safety of workers	Occurrence of accidents	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will provide: Safety shoes and safety glasses for all the workers employed to mix cement, lime mortar, concrete, etc. Welding helmets for the workers who are engaged in the welding work Earplugs to the workers who work under a loud noise Take appropriate measures to ensure safety for workers during work on construction sites. The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will follow	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		all instructions regarding safe working platforms, catwalks, digging, trenches and safe entry and exit means.			
Risk Management Measures	Occurrence of accidents	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will take all reasonable precautions to prevent danger to workers and the population from a fire, etc. as a result of construction works. The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will make all the necessary preparations so that in the event of any accidents, everything possible could be done for the provision of emergent assistance. The construction safety plan prepared by the Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will determine the necessary actions in the event of an emergency situation.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
First aid	Deterioration of health	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) organizes easily accessible first-aid kits, including a sufficient supply of sterile dressings and appliances in each construction area The availability of suitable transport at any time to take the wounded or sick person (s) to the nearest hospital.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
The management of construction camp					
Construction camp and working personnel	Health, culture and local traditions	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) organizes construction camps in cooperation with the local authorities and the population In the towns there will be provided adequate sewerage facilities (installation of bio toilets) The facilities will be properly serviced or restored in a timely manner	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
		Training in the sphere of safety measures of the residents living in the vicinity will be carried out beforehand, including the prevention and control of the transmission of diseases (for example HIV / AIDS) Local workers will be hired to increase the incomes of local residents. Provide safety instructions and protective clothing, ensure the safe organization of a temporary routes, the safety will be specified and followed by means of log entries in the logbooks, assignments of duties, etc. according to the specified templates			
Drinking water	Health deterioration	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will build and will maintain all the places of residence of the workers in such a way that uncontaminated water will be available for drinking, cooking and washing. The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will also perform the construction of drinking water supply facilities within the territory of each workplace in an accessible location. The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will also provide the following: Supply of sufficient amount of drinking water in each workplace / work camp in suitable and easily accessible places and regular maintenance of such facilities. If there will be any water storage tank, then it should be stored so that its base is at a height of at least 1 m from the ground level.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
Canalization and sewage system	Pollution of groundwater and surface water Air pollution	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will provide the design, construction and operation of the sewerage system of the construction camp in such a way that there will be no health hazards and there will be no air, ground waters or adjacent water bodies pollution; Separate toilets / bathrooms should be provided to women wherever required, hidden from the masculine (marked in the local language) Appropriate water supply must be provided in all the toilets and urinal units All the toilets in the working places have a system of dry land (vessels) that must be cleaned and stored in strict sanitary conditions and taken out in the course of its accumulation as specialized organizations accrue to the contract.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM))	PMU Expert on Environmental and Social Issues	
Flora and fauna					
Flora and fauna	Partial or total suppression	The Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) will take reasonable precautions to prevent his workers or any other people from removing and damaging any object of the flora (plant / vegetation) and fauna (animals), including fishing in any pond and hunting for any animal. If any wild animal is found near the construction site at any time, then the Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) immediately after the discovery will invite the Environmental Expert and will follow instructions for handling the animal. The expert for nature protection will inform the nearest forest management department (line office or department) and take appropriate steps / measures, if necessary after the consultation with the forestry staff.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM)	PMU Expert on Environmental and Social Issues	

Activity	Potential Impacts	Measures aimed at the mitigation of impact	Responsible organizations		Cost of mitigation actions / measure[29]
			Implementation	Monitoring	
Objects of cultural heritage					
Accidental archaeological finds	Total or partial destruction	All archaeological objects found during the performance of construction works, are required to be treated in accordance with the national legislation. In the event of an unexpected discovery of archaeological objects, the Contractor (responsible for Environment Protection (EP) and Safety Measures (SM) must immediately notify the Project Management Office (Environmental and Social Expert) / Organization - the national consultant and local authorities, and the Department of archeology and follow their instructions.	Contractor (responsible for Environment Protection (EP) and Safety Measures (SM)	Expert on Nature protection, Technical supervision	
STAGE OF OPERATING AND MAINTENANCE OF FOCL VOLSES (AFTER CONSTRUCTION)					
Monitoring of the development of erosion processes	Deterioration of soil quality	The project manager will be responsible for the periodic monitoring of soil cover at selected locations in accordance with the pollution monitoring plan (the areas most prone to erosion).	Project Executor	PMU Expert on Environmental and Social Issues	
Pollution monitoring	Deterioration of soil quality	The project manager will be responsible for the periodic monitoring of soil cover at selected locations in accordance with the pollution monitoring plan (the areas most prone to erosion).	Project Executor	PMU Expert on Environmental and Social Issues	

Form 2 ENVIRONMENTAL MONITORING PLAN

Elements	Monitoring parameters	Location	Monitoring types	Monitoring Periodicity	Monitoring Cost[30] (The cost of the equipment or the amount of the contractor's expenses necessary to perform the monitoring?)	Start date / completion date [30]
BASELINE MONITORING BEFORE THE BEGINNING OF WORKS (ENVIRONMENTAL AND SOCIAL SCREENING AT THE STAGE OF DESIGN)						
CONSTRUCTION PERIOD						
EXPLOITAION STAGE AND TECHNICAL MAINTENANCE OF FOCL (AFTER THE CONSTRUCTION)						

[30] The cost of monitoring and the start and completion dates will be established at the next design stage (after the route has been specified)

Form 2.1. The examples of the activities

Elements	Monitoring parameters	Location	Monitoring types	Monitoring Periodicity
DESIGNING STAGE (ENVIRONMENTAL AND SOCIAL SCREENING BEFORE THE CONSTRUCTION STARTS)				
Quality of the environment	Air quality control Control of noise and vibration Water quality control of crossed watercourses / reservoirs Quality control of soils (chemical pollution, characteristics of the fertile layer) Control of hazardous processes (the erosion of the surface layer of soil and river banks, flooding, mud flowing areas, etc.) Biodiversity control (flora and fauna)	Throughout the project area implementation	Develop programs to include all the requirements of Kyrgyz legislation on the baseline monitoring / involve contractors (organization - national consultant) and accredited laboratories	The periodicity is established when developing the programs of monitoring's. At the design stage, to include background information in the Environmental Protection Section (EPS) as part of the project / prior to the State Environmental Expertise of the project
Quality of the social environment	The Program of Social studies of affected settlements (including the monitoring of structures and facilities near the allocation of the fiber optic communication links)	Throughout the project area implementation	Develop programs to include all the requirements of legislation on the baseline monitoring / involve contractors and accredited laboratories	At the design stage, to include background information in the Environmental Protection Section (EPS) part of the project (in accordance with the developed programs) / before the State Environmental Expertise of the project
CONSTRUCTION STAGE				
The preservation of the fertile layer of soil	Warehousing and protective equipment	Construction site and trenches	Inspections; Observation	After the preparation of the construction site, after the storage of materials and after the completion of works
Construction sites and workers' campuses	Monitoring: Storage locations Drainage Sewerage in workers' campuses	In places of storage and in workers' campuses	Sewage / drainage inspection and the standards for construction campuses and bringing them to the level of compliance with requirements	Quarterly at the construction stage
Maintenance and refueling of equipment	Prevention of oil and fuel spills	Contractor's site	Inspections; Observation	Sudden inspections during the construction

Elements	Monitoring parameters	Location	Monitoring types	Monitoring Periodicity
Health and safety of workers	Construction site and work campuses	Construction sites and construction campuses	Inspections; interview; Comparisons with the methods provided by the contractors	Sudden checks during the construction and upon the receipt of complaints
Surface water protection	The contractor's compliance with the stated approved methods	Works near rivers and ponds	Inspections	Sudden inspections during the work near the water bodies
Protection of trees	If possible, the trees near the construction sites should be enclosed by a protective fence	On sites where trees and forests are located along the construction site	Supervision	After the commencement of construction works on the relevant site
Air pollution from the improper maintenance of equipment	Exhaust gases, dust	On the way of laying a fiber optic communication cable	Visual inspections	Sudden inspections during the construction works
Monitoring of air quality, noise and vibration	Products of combustion of fuel, dust	On the areas that are most affected (settlements, nature reserves, SPNR (Specially Protected Natural Areas), etc.)	In accordance with the approved program (that is developed at the design stage)	In accordance with the approved program (that is developed at the design stage)
Monitoring of noise and vibration levels	The noise and vibration level of populated areas	On the areas that are most affected (settlements, nature reserves, SPNR (Specially Protected Natural Areas), etc.)	-//-	-//-
Monitoring of water quality of crossed watercourses / reservoirs	Turbidity, oil products and other possible contaminant materials	At the intersection of watercourses / water reservoirs	-//-	-//-
Monitoring of soil quality (chemical pollution) and hazardous processes (erosion of the surface layer of soil and river banks, flooding, mud flowing areas, etc.)	Chemical pollution in the parking areas of the vehicles Landslides Erosion Flooding	In the areas most affected (places most susceptible to landslide processes, mudflowable areas, etc.) / Parking spaces of the construction equipment	-//-	-//-
Monitoring of buildings and structures near the allocation of fiber optic communication lines	The technical condition of buildings and structures	In places most vulnerable when laying out a fiber optic communication line	-//-	-//-

Elements	Monitoring parameters	Location	Monitoring types	Monitoring Periodicity
Monitoring of endemic, species of animals and plants listed in the Red Book	The presence of endemic species of animals and plants listed in the Red Book	Throughout the project area implementation	-//-	-//-
Monitoring of Archaeological Research	Presence of cultural, historical monuments, petroglyphs, etc.	Throughout the project area implementation	-//-	-//-
Damage of drainage or uncontrolled erosion	Leakage into the drainage system and damage from erosion	Culverts and drainage structures	Documentation	Within a year
EXPLOITAION STAGE AND TECHNICAL MAINTENANCE OF FOCL (AFTER THE CONSTRUCTION)				
The preservation of the fertile layer of soil	Warehousing and protective equipment	Construction site and trenches	Inspections; Observation	After the preparation of the construction site, inspections during repair works
Air pollution from the improper maintenance of equipment	Exhaust gases, dust	On the way of laying a fiber optic communication cable	Visual inspections	Inspections during repair works
Monitoring of air quality, noise and vibration	Products of combustion of fuel, dust	On the areas that are most affected (settlements, nature reserves, SPNR (Specially Protected Natural Areas), etc.)	In accordance with the approved program (that is developed at the design stage)	In accordance with the approved program (that is developed at the design stage)
Monitoring of air noise and vibration	The noise and vibration level of populated areas	-//-	-//-	-//-
Monitoring of soil quality (chemical pollution) and hazardous processes (erosion of the surface layer of soil and river banks, flooding, mud flowing areas, etc.)	Chemical pollution in the parking areas of the vehicles Landslides Erosion Flooding	In the areas most affected (places most susceptible to landslide processes, mudflowable areas, etc.) / Parking spaces of the construction equipment	-//-	-//-

Procedure for processing applications and proposals should include all the procedures reflected in Section 5.8 of this ESMP.

ГОСУДАРСТВЕННЫЙ КОМИТЕТ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ И СВЯЗИ КР (ГКИТ)

DigitalCASA в Кыргызской Республике
PMU

THE COMPLAINT REGISTRATION FORM

Incoming No.: _____

Name of the subject / Code:_____ Place of registration:_____

Basic information Name of the complaint……. Position (For example, a farmer, a civil servant, a worker, etc.) ……..…… Email ……. Telefon ……...…….. Address ……. Region / district / village ……
Types of complaint (Describe the type of complaint and the problem briefly)
Who or what is the source of the complaint?
Was the complaint filed earlier on the same subject?
Suggestions or suggestions for resolving the problem?

Signature of the complaint: …… Date…….
Recipient Name……... Position ……   Signature…… Date……...……..

THE STATE COMMITTEE OF INFORMATION TECHNOLOGY AND COMMUNICATIONS OF THE KR (SCITC of the KR)

The Digital CASA- the Kyrgyz Republic Project Management Unit

REPORT ON THE ENVIRONMENTAL AND SOCIAL MONITORING

INSTRUCTIONS

The present Report is aimed at the establishment of the level of compliance with the environmental, social and safety norms at the stage of preparatory works and construction within the framework of the subprojects implementation. The report is prepared by the Component Coordinator in cooperation with the Expert (if he/she participated in the audit) who carry out supervisory checks or when examining complaints received from individuals or groups of persons affected by the subprojects impacts during their realization to ensure the compliance with all the necessary requirements of the ESMP and RAP.

The form of the report on environmental and social monitoring

Major inconsistencies and impacts and recommended actions for the follow-up inspections

Based on the Check List, indicate in the table what are the main non-compliances and the impacts discovered, as well as the general measures recommended for their elimination. This table will serve as a tool to determine the priority of follow-up actions during the future audits.

The check-list for inspections

Compliance with the environmental and social safety requirements

NOTE. The answer "YES" to any of the questions in the table provided below indicates non-compliance or influence.

Questions	Answers			Short description of the impact / non-compliance (include location of the impact)	Recommended activities	Follow-up Actions (if applicable)
	Yes	No	Not applicable			
Arrangement and periods of monitoring						
Whether the Contractor is a law breaker, if applicable, of any requirements within the framework of the requirements of the ESMP or RAP, or specified in the contract for the performance of work in a particular area (for example, the requirements for hiring workers are not met, requirements for the use of equipment or materials are not met, etc.). (Please indicate the types of violations).						
Does the Contractor comply with the environmental and social reporting requirements? (Please specify in which part)						
The contractor does not meet the requirements for the monitoring of						

Questions	Answers			Short description of the impact / non-compliance (include location of the impact)	Recommended activities	Follow-up Actions (if applicable)
	Yes	No	Not applicable			
the impact on the environment (please specify)						
The contractor does not have the required permits for the project (for example, water use, air pollution, etc.) (please specify)						
The contractor does not comply with the requirements of the labor legislation and international labor standards, the prohibition of compulsory and child labor and the prevention of sexual harassment and discrimination in the workplace based on sex, religion, social origin, etc.? (Please specify)						
The contractor cannot hire women or reduce the number of female employees in disproportionate amounts in comparison to men? (Please specify)						
Environmental and social impact						
Is there a stationary water on the construction site? If so, is there any reason to believe that the water has been standing for more than 4 days?						
Is there any erosion of land in the area of the work being carried out?						

Questions	Answers			Short description of the impact / non-compliance (include location of the impact)	Recommended activities	Follow-up Actions (if applicable)
	Yes	No	Not applicable			
Are there any garbage or construction waste in the work site where the construction is carried out? (This waste can be a physical hazard, such as broken glass and rusty ruptured roofing sheets, as well as toxic hazards such as lead paint, and can constitute danger to the human health and the environment)						
Is there any fuel, oil, paint or chemical spills on the ground or in the water? (Such spills can contaminate soil, surface water and groundwater)						
What is the level of operation and the maintenance of construction sites?						
Are there excessive periods of interruption of public transport traffic to residential, commercial, medical or institutional facilities and / or services due to inadequate performance of the traffic control and security measures during construction?						
Is there any damage caused to utility enterprises and lines of service, networks or pipelines?						
Are there conflicts with the local population due to the use of the resources, water resources?						
Is the fertile and vegetative layer						

Questions	Answers			Short description of the impact / non-compliance (include location of the impact)	Recommended activities	Follow-up Actions (if applicable)
	Yes	No	Not applicable			
preserved?						
Are there the unresolved problems of resettlement and compensation?						
Are there any manifestations of unintended or unforeseen impacts? (Specify impact type and impact location)						
The impact on health and safety						
Is there a well-marked boundary for the construction sites and controlled access?						
Are there any safety signs, at least for marking the border of the construction site and for the storage areas for materials and debris?						
Is smoking permitted on the construction site and is there a place for smoking away from the easily flammable materials?						
Is there a first aid kit in the construction area, are there employees who are familiar with its use and trained to provide basic first aid?						
Does the personal protective equipment (PPE) complies with the work performed?						
Are there scaffolding and are they kept in proper order (fencing, etc.)? (That						

Questions	Answers			Short description of the impact / non-compliance (include location of the impact)	Recommended activities	Follow-up Actions (if applicable)
	Yes	No	Not applicable			
is, are they capable of carrying a minimum of 4 times the maximum load without the deposition or displacement)?						
Are asbestos and lead paint and other toxic substances used in construction and other works? (Please specify, in what activities and how often)						

1. **Sub-Project name** _____
2. **Place of sub-project:** _____
3. **Time frame for records:** _____

№ items	The title of activity	The objective of activity	Changes in the environment and social environment that was planed	Changes in the environment and social environment that occurred in fact	Effectiveness of activity	The amount that it was planned to spend on the event, $	The amount spent on the event, $
1	2	3	4	5	6	9	10
1							
2							
3							
…							
Total							

signature: _____ Date:_____

Surname_____ Position: _____

THE DISCUSSION OF THE BASICS OF ENVIRONMENTAL AND SOCIAL MANAGEMENT AND POPULATION RESETTLEMENT POLICY FOR THE "DIGITAL CASA - CENTRAL ASIA – THE KYRGYZ REPUBLIC" PROJECT

Date: July 13, 2017

Time: 10 am – 12 pm

Venue: The Conference Hall of the State Committee for Information Technology and Communication of the Kyrgyz Republic

The State Committee for Information Technology and Communication of the Kyrgyz Republic held an extended meeting of representatives of the State Committee for the Development of Culture and Design of the Kyrgyz Republic (SCDCC of KR) and the developers of the documents under discussion of the EcoPartner LLC with the representatives of the Government Office of the Kyrgyz Republic, the Association of Telecom Operators, the State Agency for Architecture and Construction under the Government of the Kyrgyz Republic, the State Agency for Environmental Protection and Forestry Economy under the Government of the KR, the State Agency for Local Self-Government and Interethnic Relationships KR Government, Internet Services Providers, telecommunications operators, NGOs and the Association of forest and land of KR, other nongovernmental organizations. In total, 34 representatives took part in the event (the list and photos are presented below).

The purpose of the public hearings held within the framework of the project "Digital CASA- the KR "is to inform and receive feedback from the public concerned about the proposed procedures and mechanisms for managing the natural environment and social environment, and the fundamentals of the resettlement policy that will form the basis of the project.

Two presentations were delivered at the meeting: information about the project "Digital CASA- Central Asia- the Kyrgyz Republic" and information on the developed procedures and requirements in the field of environmental protection and interaction with the population, in accordance with the requirements of the World Bank and Kyrgyz legislation in the implementation of project components.

Amatov E.A., the Deputy Chairman of the State Committee for Information Technology and Communication of the Kyrgyz Republic greeted all present at the meeting and delivered a presentation About the project "Digital CASA". He said that the donors of the project are the World Bank and the Government of the Kyrgyz Republic, the planned cost of the project is $ 50 million. The planned activity of the project: 1) construction of fiber-optic infrastructure to each village, 2) construction of 3 traffic

exchange points IXP: Bishkek, Osh, Data Center "Eurasia-Cloud". Within the framework of the project, access to the Internet will be provided to the units: MIA (Ministry of Internal Affairs) units, medical institutions, educational schools, State administrations and Aiyl Okmotu and post offices.

The representative of "EcoPartner" LLC - Bortsova S.V., introduced the participants to the basics of environmental and social management, which will form the basis for the future implementation of the project and its components. The presentation included: The World Bank policy on environmental assessment, a brief environmental and social assessment of the project components, the planned hierarchy of actors in the implementation of the project / subprojects, the project cycle in the field of environmental and social issues, the criteria for the evaluation of the subprojects, the development stages of environmental and social issues. The criteria for the evaluation of the subprojects from the point of view of their impact on the natural environment and the social environment, as well as the basics of the resettlement policy, were presented, in accordance with the requirements of the World Bank and the Kyrgyz legislation.

At the end of the presentation, the participants of the event asked questions to both speakers:

1. Question: Is it possible to connect the forest husbandry to the Internet within the framework of this project?

Answer: The list of units subject to connection is already defined in the project, but if the forest husbandry (Leshozes) provide public services, this possibility is available within the framework of the public services expansion component via the Internet.

2. Question: How will the issue of the construction near the territory of the Issyk-Kul Reserve be resolved? Will the anxiety factor for animals be considered when carrying out this work?

Answer: It is planned to conduct the laying out works on the existing roads, but, in case if it is necessary, the additional measures will be developed to reduce the possible impact, including the impact on animals.

3. Question: What is the route for FOCL laying?

Answer: At present moment, the route of the line has not exactly been defined yet.

4. Question: Which business model will be used when working with contractors?

5. Answer: This issue is still at the development stage. We want to define the model considering the interests of all groups at the next meeting, where the options for the discussion will be presented, and where the priority business model will be determined that will be implemented for the work within the framework of the project.

In general, the information was received positively by the participants.

All the participants were informed of the possibility of feedback, on the information provided, for

the delivery of their proposals and comments to the developers and / or the State Committee for the Development of Culture and Design of the Kyrgyz Republic.

The participants put forward the proposal to approve the text of the ESMP without introduction of any changes.

The Deputy Chairman of the State Committee of Information Technology
and Communication of the Kyrgyz Republic *Amatov E.A.*