



**KYRGYZ REPUBLIC**  
**COMMUNITY DEVELOPMENT AND INVESTMENT AGENCY**

**SUSTAINABLE RURAL WATER SUPPLY AND SANITATION  
DEVELOPMENT PROJECT**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**

**Rehabilitation of water supply system  
Kurama subproject**

**February 2017**

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## **1. INTRODUCTION. DESCRIPTION OF THE PROJECT AREA, WATER SUPPLY SYSTEM.**

### **Introduction**

The objective of Sustainable Rural Water Supply and Sanitation Development Project (SRWSSDP)<sup>1</sup> is to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and to strengthen capacity of the Recipient's institutions in the water supply and sanitation sector.

An Environmental and Social Management Framework (ESMF) for the project consistent with Environmental Assessment (OP 4.01) requirements was prepared and found satisfactory by the World Bank. The ESMF public consultations were held on February 11, and June 23, 2016 in Bishkek and February 16, June 24 2016, in Osh –including participants from each target rural community. The final ESMF documents in both Russian and English languages were disclosed in country and on the Bank Infoshop on July 4, 2016 and July 6, 2016 respectively. Each activity to be financed under the project will be reviewed for safeguards risks in line with OP4.01, and must obtain the clearances required by Kyrgyz national regulations.

The ESMF covers procedures and mechanisms that will be triggered by the Project to comply with the World Bank Policy 4.01 Environmental Assessment<sup>2</sup>, legislation and normative and legal acts of the Kyrgyz Republic governing preparation and implementation of environmental protection requirements.

The present Environmental and Social Management Plan (ESMP) outlines environmental impacts and mitigation measures related to the rehabilitation of water supply investments in Kurama subproject.

ESMP activities will be included in bidding and contract documents as part of both construction and technical supervision phases.

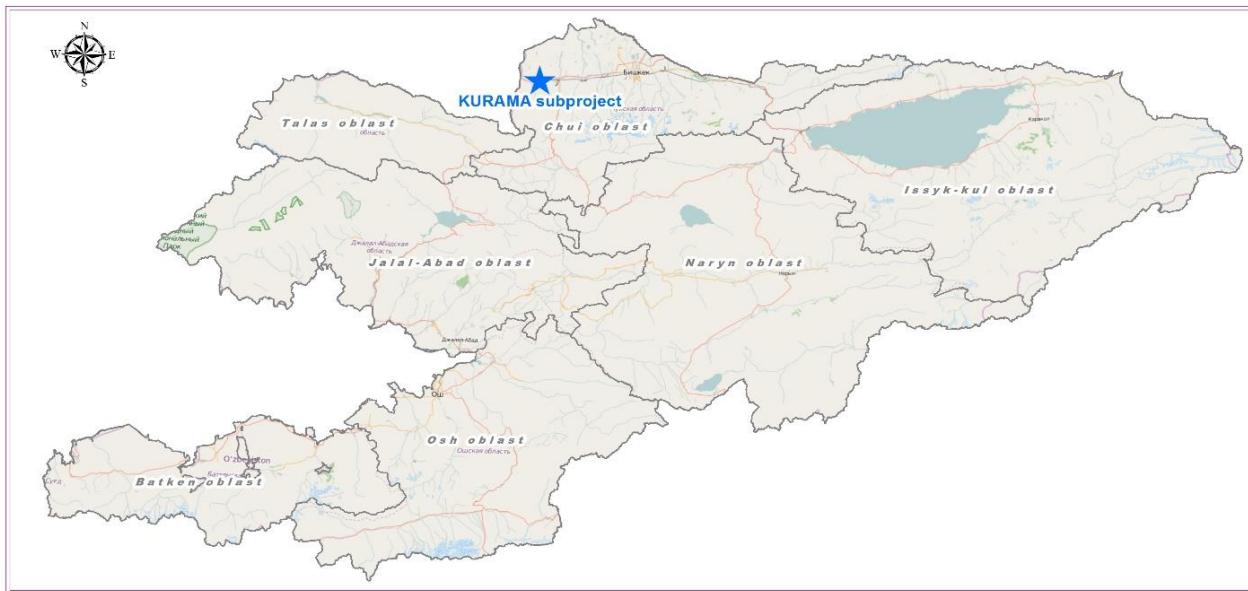
### **Description of the project area**

The subproject consists of one village – Panfilovka, which is part of Kurama Aiyil Okmotu in Panfilov Raion, Chui Oblast. Population in the village is 8253 residents. The village is located 20 km to the west from the Kara-Balta town (Raion capital) in the Chui Valley. Water supply is currently managed by CDWUU.

The foothills of the Chu Valley are characterized by continental climate. In winters, the atmospheric pressure is high, resulting in fair cold weather with strong temperature inversions. In spring, early summer and autumn, the western and northwestern air intrusions become more frequent, bringing abrupt temperature changes and rainfall. The second half of the summer is typically dry and hot.

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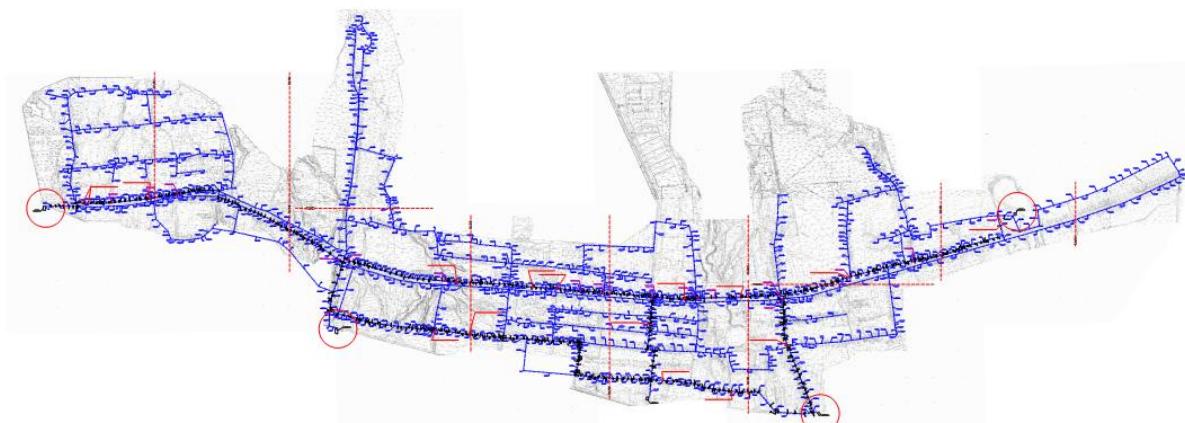
<sup>1</sup> In accordance with the proposal of ARIS and Department of Water Supply and Sanitation (DWSS) the project name was changed from RWSSP-3 (Third Rural water supply and sanitation project) on SRWSSDP (Sustainable Rural Water Supply and Sanitation Development Project)



## Water supply system

The water supply system in Panfilovka was constructed in late 1970s using underground water as a source. The water intake had a well with pump; also, water tower and bactericidal plant were built at the intake. A water supply ring network was mainly built of asbestos pipelines and minor part built of cast-iron and PE pipes.

Water intake and network were extended in early 1980s. The works included drilling of another well equipped with submersible pump. The village water network was tapped to the intake by two a/c mains.



*Situational diagram of the projected water supply system of Kurama subproject (water intake sites (wells) are indicated by circles)*

The existing water supply network of Panfilov village was built of steel, cast-iron and asbestos-cement pipes. Currently, existing water intake including two wells, 2<sup>nd</sup> elevation pumping station, storage reservoirs and water tower are in disrepair.

The water is currently delivered to the network using four pumping stations installed on existing wells in different parts of the village, which were previously used for irrigation system delivering water by open concrete canal to the daily run-off pond. Major part of the drinking water pipework is in satisfactory state but there are many broken sections.

Total length of the network is 48385m. There are 230 manholes on the pipeline; these are mainly in poor condition, and almost all of them are without lids and littered. Fire hydrants, street standpipes and valves are out of work.

## **2. SCOPE OF WORKS AND IDENTIFICATION OF ASSOCIATED ENVIRONMENTAL AND SOCIAL IMPACTS**

The project provides for the following technical process: drinking water will be pumped from 4 boreholes (wells) by submersible pumps with variable frequency drives to a germicidal plant and then to the distribution system for use by consumers. This process makes it possible not to use water towers in the system.

Water source: ground (artesian) waters from wells

Water intake: existing 4 wells that are located in different parts of the village and cannot impact each other during simultaneous operation. Each well will have an underground chamber and wellhead. The wells will be equipped with energy-efficient submersible pumps with variable frequency drives (design pump efficiency is 70% min.). The pump depth will be 50 m. The pumps will operate automatically via a pressure controller on the discharge line.

### **Planned activities:**

1. Rehabilitation of 4 existing wells;
2. Construction of water transmission lines, about 25 km;
3. Construction of a fence with a gatehouse;
4. Construction of pressure water networks, about 45 km.

The estimated period of construction and rehabilitation works is 18 months. The defects liability period is 12 months.

SRWSSDP will not finance any activity with significant or irreversible environmental impacts, and therefore has triggered OP 4.01 with classification as Environmental Category "B."

The identified positive environmental impacts of the project include (i) improved citizens' skills and awareness in planning and implementation of local activities, with particular attention to environment protection, and (ii) sustainable management of improved infrastructure by communities, which will bring environmental and social benefits related to natural resources management.

Expected potential environmental issues in connection with small/medium-scale activities in local communities are constrained to construction-related temporary disturbances and will impact a number of environmental components (these impacts and risks are discussed in Section 4).

### **Handling of asbestos-containing materials (ACM).**

Visits to the Kyrgyz Ata sub-project site showed that the existing water distribution network is made of steel, cast iron and asbestos cement (AC) pipes. During water system rehabilitation, existing asbestos cement pipes will not be removed. Every effort will be made to leave the old pipes in the ground. New pipelines will be installed parallel to the existing ones. In the event of removal of asbestos cement pipes asbestos contained materials waste will be collected, transported and finally disposed by applying special protective measures in accordance with the hazardous waste handling standards. See Section 6 for detailed information on disposal of asbestos-containing materials.

### **Environmental oversight**

During activities implementation, safeguard specialist of ARIS will have overall supervision responsibility for ensuring that the measures indicated in the ESMP are being properly performed. Safeguard specialist and engineers of ARIS in collaboration with the local authorities and the Kyrgyz Forestry and Environment Preservation Agency will perform the activity's environmental monitoring during both construction and operation phases.

The subproject will not finance Category-A activities, will not support activities that target natural habitats or protected sites, and will not finance those activities that can cause a significant loss or degradation of any significant natural habitat.

### **Social aspects**

In addition to environmental aspects, social impacts, including gender and conflict sensitivity, should be considered. While social impacts do not fall under safeguards, they are critical for successful implementation of the subproject. It is critical to ensure equal participation, consideration and reflection of interests and opinions of women throughout the project implementation.

*Demographic data.* The subproject will not impact cultural or national heritage monuments.

The target population is 8,253 people (1,979 households), including 4,164 men and 4,089 women. The major ethnic groups are the Kyrgyz (70%), Russians (14%), Ukrainians (4%), Kazakhs (2%) and others (10%). The percentage of pensioners is 14%. The total number of residents able to work is 6,269.

The main activities are as follows: 4,186 people are engaged in the economic sector, 73 people work in state-owned organizations and companies; 1,930 people work in private organizations and businesses; 222 people are individual entrepreneurs; 573 people are engaged in the public sector. The number of unemployed residents is 1,920. The main sources of income are livestock farming (2,520 people), land farming (2,280), and services and trade (258 people).

A total of 50 households are not connected to the water supply system; 38 households have water tanks/pumps (data from AO passport).

Proceeding from the demographic data, we can say that the possibility of interethnic conflicts and other social tensions is unlikely. Following visits to the Kurama subproject site, potential conflict trigger factors were identified: perception of or actual delay in implementation; potential social resistance to tariff increase; changes in water consumption behavior and practice; limited capacities of local self-governments; potential problems with connecting low-income households to the water system. These issues will be mitigated through a proper information sharing, availability of GRM and greater engagement of women in project activities.

*Involuntary Resettlement.* Land allotment and resettlement issues are covered by the World Bank OP 4.12 Involuntary Resettlement. As for involuntary resettlement, no significant impacts that could require land allotment, economic displacement or physical resettlement have been identified. All water transmission and distribution lines will be installed on municipal land.

No trees owned by the municipality will be cut down until all necessary permits obtained.

The size of impact on private trees or shrubs has not been measured to date. In the event of cutting private trees, RAP (in accordance with RPF) will be prepared and implemented before the start of construction. Pipeline installation will require cutting private trees, apple trees mostly. During planning and construction, every effort will be taken to avoid impacts on privately owned trees.

Conclusion: some private trees will definitely need to be cut; private lands will not be affected.

Section 4 describes social impact minimization measures.

### **Grievance redress mechanisms.**

ARIS will use corporate system for managing grievances and appeals from citizens. Guidelines (Regulations) developed to set procedures for managing grievances and appeals, delineate responsibilities between ARIS officials and specify follow-up measures. This Guideline covers all programs and projects implemented by ARIS, and all ARIS' staff and consultants without exception are to adhere by the requirements of this Guideline.

All appeals and complaints from citizens received under the SRWSSDP will be delivered to the corporate system for further processing and follow-up.

People can use GRM to submit complaints, suggestions and recommendations concerning the ARIS and project related activities in writing or orally, meanwhile ARIS and its staff are obliged to accept and register these in accordance with the provisions of this Guideline.

Grievance redress mechanism will be available for project stakeholders to submit questions, comments, suggestions and/or complaints, or provide any form of feedback on all project-funded activities. The general process for managing complaints is described in Annex 1 of the Project Operations Manual.

### **3. ENVIRONMENTAL LEGISLATION**

The main normative documents governing the environmental protection activities under Kurama subproject are<sup>3</sup>:

- **The Constitution of the Kyrgyz Republic 2010**
- **The Law “On Environmental Protection”<sup>4</sup>**
- **Law on Environmental Expertise<sup>5</sup>**
- **The Law of KR “On General Technical Regulations on Ensuring Ecological Safety in the Kyrgyz Republic”<sup>6</sup>**
- **The Law of KR “On Water”<sup>7</sup>**
- **The Law of the KR “On Interstate Use of Water Bodies, Water Resources and Water Management Facilities in the Kyrgyz Republic”**

Over laws and normative acts on environmental protection can be found at <http://www.nature.gov.kg/lawbase/index.htm>.

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<sup>3</sup> The documents below are described in the main ESMF document for the Sustainable Rural Water Supply and Sanitation Development Project.

<sup>4</sup> Dated June 16, 1999 #53 (with amendments and additions dated February 4, 2002 #22; June 11, 2003 # 101; August 11, 2004 # 113; August 6, 2005 # 124; April 27, 2009 # 131).

<sup>5</sup> Dated June 16, 1999 # 54 (with amendments and additions dated June 11, 2003 # 102; February 26, 2007 # 21)

<sup>6</sup> Dated May 8, 2009 # 151 (with amendments and additions dated March 6, 2012 # 19)

<sup>7</sup> Dated January 14, 1994 # 1423- XII

#### 4. ENVIRONMENTAL AND SOCIAL MANAGEMENT/MITIGATION PLAN

Environmental and Social Elements	Impacts and risks	Proposed mitigation measures <sup>8</sup>	Institutional responsibility for mitigation (Cost of mitigation activities) <sup>9</sup>	Monitoring
Construction period				
<b>Physical Environment</b>				
Noise	<p>During the construction phase, sources of temporary noise will be the engines of construction and road equipment.</p> <p>Noise levels can also increase temporarily along the materials supply routes.</p>	<p>The use of noise protection is not provided, the equipment will be equipped with a silencer. Application of vibrator equipment compliant with standards and vibration- and noise-protection equipment.</p> <p>Equipment will work from 08.00 a.m. to 08.00 p.m. only, no operations will be carried out during night hours.</p> <p>During operations, covers of engines and generators, air compressors and other driving mechanisms should be closed; equipment should be located at the maximum distance from residential premises.</p> <p>So, noise levels during the construction phase, considering that day-time operations only are planned, will not exceed the existing sanitary standards on maximum and equivalent noise levels.</p> <p>There will be no sources of noise <i>during the operational phase</i>.</p>	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p>	<p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p> <p>Representative of contractor is responsible to execute the mitigation measure.</p> <p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>
Impact on land resources	<p>During the construction phase, impacts will be associated with the following types of work:</p>	<p>Use proper agreed placement sites only.</p> <p>Basic proper construction norms and standards applied during the construction period</p> <p>Daily checks of machinery of leaking of oil; ban to wash machinery at construction site.</p> <p>Topsoil removal</p>	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p>	<p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p>

<sup>8</sup> Activities requiring financial expenses are to be included in BoQ.

<sup>9</sup> Cost of mitigation activities is defined by a contractor in relevant items in bidding documents.

	<p>Earthworks: excavation, embankments, earth filling, leveling</p> <p>Construction equipment operations</p> <p>Generation of solid domestic wastes</p>	<p>Landscaping in accordance with the project.</p> <p>During the construction phase, all activities will be carried out in the areas designated for construction and movement of vehicles and equipment. Reinforced concrete and concrete structures will be precast structures. Excavated earth will be stockpiled 5 km away from the construction site and, after completion of work, returned to the site for backfilling and leveling.</p> <p>During construction, only solid domestic waste will be generated.</p> <p>Prior to construction, the contractor must obtain a work permit and also a waste disposal permit from the Chui-Bishkek territorial environmental protection unit.</p> <p>Permits are issued based on approval of the design documentation, including estimates of emissions and waste generation rates in the environmental section, by the responsible government agency (state environmental review).</p> <p>During the operational phase, solid domestic waste will be produced.</p>		<p>Representative of contractor is responsible to execute the mitigation measure.</p> <p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>
Air Quality	<p>Dust emissions during retrofitting activities would be minor and temporary.</p> <p>Air pollutant emissions are expected from:</p> <ul style="list-style-type: none"> <li>-auto transport (transportation of excavated material)</li> </ul>	<p>Dust prevention measures and good housekeeping practices such as water spraying to prevent dust and use of curtains and screening of the construction area.</p> <p>Use of masks, work gloves and clothes by workers. All vehicles delivering dusty construction materials to the site or removing debris will be enclosed and covered to prevent release of dust.</p> <p>Limitation of the speed of vehicles and selection of relevant transportation routes for minimization of impact on the receptors sensitive to dust.</p>	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p>	<p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p> <p>Representative of contractor is responsible to execute the mitigation measure.</p>

	<ul style="list-style-type: none"> <li>-earth moving (excavation and loading)</li> <li>-ground leveling</li> <li>- electric arc welding;</li> </ul> <p>Equipping the machinery transporting granular materials with removable canvas covers. Supply of cement to construction sites in pre-pack hermetic packages.</p> <p>The equipment will be used in certain operations only and will not be present at the construction site all the time.</p> <p>Operation of vehicles with defective fuel system exceeding the norms of toxicity of exhausted gases is not allowed.</p> <p>Burning of construction and domestic waste at working area is prohibited.</p> <p>It is needed to ensure cleanliness of adjacent area, not allowing construction waste to minimize dusting and contamination.</p> <p>All emissions will be temporary and short in duration. It should be noted that construction of facilities will not be simultaneous, but will be carried out consecutively on a step-by-step basis—one facility after another.</p> <p>Therefore, air pollutant emissions during the construction phase will not exceed the existing standards.</p> <p>No pollutant emissions will take place during the operational phase.</p>		<p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>
	<p>Use of calcium hypochlorite (bleach powder).</p> <p>During construction, no chlorine will be used, so the impact is ruled out.</p> <p>During the operational phase, there can be an impact on people who will work with chlorine directly (in the work area).</p> <p><i>INSTRUCTION On Purchase, Sale, Storage, Accounting and Transportation of Highly Toxic Substances</i>, approved by Resolution #513 of the</p>		

		Government of the Kyrgyz Republic of September 21, 1999		
Water resources	Well rehabilitation works	<p>During the construction period, there will be no impacts on surface water sources.</p> <p>Wastewater will be discharged to a watertight cesspit. When full, the cesspit will be emptied by a sewage truck and transported directly to municipal wastewater treatment plants in the town of Kaindy for disposal.</p> <p>Refuse from excavations beside groundwater occurrence.</p> <p>Working areas with machinery, cement mixers, and fuel tanks are located beyond water protection zones</p> <p>During the operational phase, there will be no impacts on surface water sources.</p> <p>Water for drinking water supply will be taken from the existing network.</p>	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p>	<p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p> <p>Representative of contractor is responsible to execute the mitigation measure.</p> <p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>
Construction waste	Contamination of adjacent area, soil, water resources	<p>Separation of all types of waste streams, reuse and recycling wherever possible</p> <p>Disposal of wastes that cannot be reused or recycled, transport and disposal of wastes at designated landfill site and in cooperation with the local waste management company; no open burning</p> <p>Mineral waste from construction and dismantling works should be separated from common waste and organic, liquid and chemical waste through sorting and keeping in special containers.</p> <p>All documents on waste removal and disposal should be maintained properly as a proof of appropriate management of waste at the site. As for domestic waste, installation of collection tanks and timely removal of waste should be arranged by local SES agencies.</p>	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p>	<p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p> <p>Representative of contractor is responsible to execute the mitigation measure.</p> <p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>

Construction hazardous waste	Some construction debris may contain asbestos	Detailed impact mitigation measures are discussed in Section 6.	<p>Criteria / specifications to be incorporated into bidding and contract documents.</p> <p>It is not considered as a separate cost item</p> <p>Contractor shall develop site-specific measures where requirements to ACM and asbestos waste will be contained.</p>	<p>The contractor needs to train their workers on how to assess presence of asbestos containing materials and to establish a procedure of its safe removal using proper protection equipment, storage without breaking in air-tight containers and management by an authorized agency or company.</p> <p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p> <p>Representative of contractor is responsible to execute the mitigation measure.</p> <p>Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</p>
Chance findings	Damage and degradation of site structures	In case of chance finds or other significant discoveries during excavation works stop all works and inform relevant authorities prior to proceeding		Contractor and Site Supervision Engineer.
Setting up of construction site and removal of site upon completion of works	Possible disturbances decommissioning	<p>Plan to decrease disturbance to surroundings and neighbors (including plans to ensure proper traffic management on access roads to site)</p> <p>Fencing off the site or access to site with proper safety signs</p> <p>After completion of works, site will be restored to previous conditions and all wastes will be cleared in</p>	<p>Negligible costs</p> <p>Contractor costs</p>	<p>Will be further defined with specifications in the design documents</p> <p>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</p>

		line with the provisions of this ESMP, all machinery will also be removed from site.		Representative of contractor is responsible to execute the mitigation measure. Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.
Tree and shrub removal during pipeline installation		Trees and shrubs will be cut down or trimmed along the pipeline routes only after all necessary permits from local environmental agencies are obtained, in coordination with local authorities and with due regard to compensatory planting. All permits will be obtained before the start of construction.	Costs are included in EBOQ (Environmental Bill of Quantities)	Contractor
Topsoil removal		Topsoil removal, transportation, stockpiling and storage at designated location for further use in rehabilitation of disturbed lands.	Costs are included in EBOQ (Environmental Bill of Quantities)	Contractor
General issues		Regular inspections  Trainings for staff (workers), safety trainings, other trainings  WB safeguards trainings for local authorities, contractors and communities will be continued under SRWSSDP.		Contractor  Local authorities and communities (AO, CDWUU) ARIS
<b>Social aspect</b>				
Safety of workers and population	Industrial accidents	Local inspections controlling construction works and environmental safety and local population should be properly notified on forthcoming project works.  Local communities will be properly notified on works by means of publications and /or notices in mass media and/or bill boards in public places (and at work sites).  All permission required by legislation for use of waste landfill, as well as permissions from sanitary inspection etc. in construction and rehabilitation works at this site, have been obtained.	Contract organizations	ACSD  Site Supervising Engineer is responsible to monitor and supervise the activity. Contractor is responsible to execute the mitigation measure.  ARIS is responsible for overall oversight.

		<p>All works will be carried out through safe and discipline methods to minimize negative impact from industrial process on population and environment.</p> <p>Individual protective means should meet safety standards (obligatory application of helmets, protective face masks, when needed, protective glasses, safety belts and boots).</p> <p>Sites will be provided with proper information boards and signs informing the workers about the rules and norms of works to be followed.</p>		
Aesthetics and landscape	Landscape alterations	Use of landscaping methods; minimization (where possible) of major excavations (deep cuts, high fills)		
Human communities	Demolition of buildings, resettlement in connection with land withdrawal for construction	Use of procedures outlined in World Bank's OP 4.12 Involuntary Resettlement		ARIS
	Suspension of utility services	Timely notification of communities about planned cutoffs; rapid restoration of utility services		ARIS
	Gender	<p>Equal participation and representation of women throughout the project implementation</p> <p>No less than 30% of meeting/hearing participants will be women.</p> <p>Under the project, it will be suggested to communities that village water committees should be established, with no less than 30% of women included as committee members.</p>		ARIS
	Poverty	A subsidy strategy will be developed under the project to connect low-income households to water systems. This strategy will be introduced under each subproject.		ARIS
	Potential social resistance to tariff increase	Social mobilization, awareness raising (welfare activities, community consultations, development		ARIS

		and implementation of outreach campaigns). Tariffs will be developed with due regard to the views of communities gathered during public consultations.		
	Limited capacities of local authorities	The project allows for a range of capacity building activities and technical assistance to local authorities.		ARIS
	<b>Potential inequality of services</b> (access and quality) in project areas. This relates to the opportunity of villages located upstream to receive more water than the consumption norm per capita compared to the villages located downstream due to lack of hydraulic regulation in gravity systems.	CDWUUs will be trained in equal distribution of water resources.		ARIS
	There are households that have own water wells. They may not be willing to connect to the new water supply system.	Awareness raising activities and trainings will be conducted in respect of water quality issues.		ARIS
Sourcing of labor and implications of any potential labor influx will be closely monitored by the safeguards consultant and ARIS. Civil works contractors will be advised to recruit necessary labor, where feasible, locally. Labor recruited from outside the community where civil works will be done will abide by a 'code of conduct'.				
<b>Operation period</b>				
Proper Operations		<p>Ensure use of environmentally acceptable fuels</p> <p>Regular technical maintenance</p> <p>Ensure all attests and certificates have been acquired in particular for fire protection and monitoring of emissions/concentrations in air</p> <p>Ensure proper, efficient use of water resource, and avoid water losses, leakages and abusive consumptions – install, operate and periodically verify the water meters for each water user.</p>		Operator of CDWUU, Local authorities (representative of AO)

## 5. MONITORING PLAN

### Environmental Monitoring Plan

What parameter is subject to monitoring?	Where will monitoring of parameter be carried out?	How will monitoring of parameter be carried out/type of monitoring equipment	When will monitoring of parameter be carried out-frequency	Monitoring cost <sup>10</sup> What cost of equipment or expenses of contractor required to conduct monitoring?	Institutional responsibility for monitoring	Date of commencement
Noise from vehicles and equipment	At the construction and disposal site	Portable noise meters	Continuous	Criteria / specifications to be incorporated into bidding and contract documents.  It is not considered as a separate cost items)	1. Inspection of construction sites is carried out by ARIS to ensure compliance with ESMP. 2. State inspectors of Architecture and construction supervision department (ACSD) will supervise fulfillment of design solutions in construction and installation works or reconstruction of facilities, quality of construction materials, structures, and participate in commissioning of completed construction facilities. 3. State ACSD carrying out state environmental supervision have a right to supervise in established procedure on presentation of official identification papers in compliance with environmental provisions, normative quality, environmental protection activities in project implementation.  NGO, local authorities (AO, CDWUU), CDWUU operator	After taking over of site possession by contractor .
Soil and water pollution	At construction site	Visual	Continuous			
Air (dust generation)	At and near the construction site	Portable measuring devices	Weekly			
Transport (parking in designated areas, car washing)	At and near the construction site	Visual	Continuous			

<sup>10</sup> Activities requiring financial expenses are to be included in BoQ.

Construction waste (waste storage and disposal)	At construction site	In accordance with the plan and observation	In accordance with the plan but at least weekly			
Decommissioning of construction site	At construction site	Visual	In accordance with the plan			
Safety of workers	At construction site	Visual	Continuous			

## **6. COLLECTION, STORAGE, TRANSPORTATION AND DISPOSAL OF ASBESTOS-CONTAINING WASTES.**

Removal of materials that contain asbestos will be carried out in line with the local legislation, including construction standards, work safety issues, air borne emissions of hazardous pollutants and disposal of waste and hazardous waste (in the event that there is no local legislation, the Directive 2003/18/EC of the European Parliament will be used, that amends and supplements Directive of the Council 83/477/EEC on worker protection from workplace asbestos exposure risks: threshold values of airborne dust particles is 0.1 fiber/cm3; also use the Good Practice Note: Asbestos: Health Issues at Workplace and Community; World Bank). Asbestos materials shall be subject to immediate final disposal/burial under special conditions.

According to Order #885 of the Government of the Kyrgyz Republic *On Hazardous Waste Management in the Kyrgyz Republic* of December 28, 2015, asbestos-containing wastes should be disposed as follows.

The hazardous waste management process (waste lifecycle) consists of the following phases: generation, accumulation (collection, temporary storage, stockpiling), transportation, neutralization, recycling, reuse of recycled products, and disposal.

When asbestos is present at a project site, it should be clearly labeled as a hazardous material. Asbestos-containing materials should not be subject to cutting or breaking as this will result in dust generation. In reconstruction, all workers should avoid crushing/damaging asbestos-containing waste, stockpile such waste at designated locations within the construction site and dispose of it properly afterwards to a special location or landfill.

When asbestos-containing waste is subject to temporary on-site storage, they should be properly contained in leak-tight containers and labeled appropriately as a hazardous material. Safety precautions should be taken to prevent any unauthorized removal of such waste from the site.

### **Collection and temporary storage of waste**

Asbestos waste generation should be minimized by using efficient technologies.

All asbestos-containing materials should be handled and disposed by qualified and experienced personnel only. The personnel should wear appropriate protective equipment (safety masks, gloves and overalls).

The amount of waste stored at the designated site must not be greater than permitted by the standards.

Industrial waste collection sites and access ways must not be blocked up.

When handling asbestos waste, the workers should necessarily wear special protective clothing, gloves and respirators. Prior to removing (if required) asbestos from the site, it should be treated with a wetting agent to minimize asbestos dust emission. Removed asbestos should never be reused.

Keeping foreign items, individual or working clothes, or personal protection equipment, or having meals at waste collection sites is not allowed.

During handling operations, workers must comply with applicable handling requirements and general safety rules. All operations should be carried out mechanically, using labor-saving lifting and transport equipment.

Hazardous wastes should be transported to the landfills by properly equipped vehicles, either own or of a specialized third party carrier. The transport vehicles should be constructed and used in a manner that prevents potential incidents, losses and environmental pollution both on the way to the landfill and when transferring waste from one vehicle to another. All activities that involve loading, transportation and unloading of waste at main and auxiliary sites should be mechanized and use leak-tight equipment. Opening hazardous waste containers during transportation is prohibited.

Solid and dusty wastes should be transported in special containers or containers fitted with gripping devices for unloading by truck cranes. Transporting unpacked asbestos in open trucks or on flat wagons is not allowed.

Using hooks and other sharp tools in handling operations is not allowed.

No one except the driver and staff members authorized to escort the waste off site is allowed to be in vehicles transporting hazardous waste. The drivers of vehicles that will transport asbestos waste must be trained in safe transport requirements.

All operations in connection with loading, transport, unloading and disposal of waste must be mechanized. The waste must be transported in a way to prevent transportation losses and environmental impacts.

### **Disposal of asbestos waste**

Asbestos waste must be disposed to landfills for municipal solid waste or unrecycled industrial solid waste.

## **7. PUBLIC CONSULTATIONS**

The ESMP public consultations were held on January 19, 2017 in Panfilov village. Heads of AO, staff of CDWUU, headmen, elderlies, deputies of aiyl kenesh and local population took part in public hearings. The interested parties and the population were provided with information on the technical part of the upcoming subproject, as well the information on the possible social and environmental impacts of the planned construction / rehabilitation of the water supply system.

### **Minutes of public hearings**

**to discuss the Environmental and Social Management Plan for the rehabilitation of the water supply system under the Kurama subproject of the Sustainable Rural Water Supply and Sanitation Development Project.**

**Venue and time of event:** Panfilov village

11:30 a.m., January 19, 2017

**Rahmanberdi u.S.**, head of AO, opened the public hearings by welcoming the participants and introduced the ARIS staff involved in preparation of the SRWSSDP.

**Erlan Korchubay uulu**, the Project Engineer presented the design decisions.

**Meerim Kerimbekova**, the Safeguards Specialist, made a presentation on social and environmental safeguards stipulated by the project. She told about environmental safety and social safeguard measures.

**Meerim Kerimbekova:** Design and estimate documentation has been developed. It includes a section on Environmental Safeguards, which received positive opinion of the state environmental review. An Environmental and Social Management Plan was also developed to mitigate social and environmental impacts.

**Question 1:** What will be the tariff for water? Will it be increased?

**Erlan Korchubay uulu:** The tariff will be calculated, the local self-government bodies will calculate and set the tariff using a methodology they will be trained on; this issue will also be discussed with the aiyl kenesh.

**Question 2:** Will surface flows and their level be damaged during construction of water supply system? Are there be any mitigation measures stipulated?

**Kerimbekova M.:** Yes, all mitigation measures on water resources are provided in ESMP: design relevant water diversion systems; refuse from excavations beside groundwater occurrence; layout embankments so as to prevent disturbance of aquifer. Construct regulation structures, strengthen banks, design structures with optimum constriction of river bed. Working areas with machinery, cement mixers, and fuel tanks will be located beyond water protection zones. The site will be provided with the measures to prevent bed deposits, including arrangement of hay blocks and/or silt-setting tanks to prevent waste discharge from facilities and excessive turbidity in springs and rivers located in the vicinity. It is prohibited to leave construction waste (logs, rocks etc.) on the ice in winter period construction.

**Question 3:** As for vulnerable groups, will they be connected to water?

**O.Satarkulov:** The vulnerable groups will be connected at the cost of local budget and this is being considered at the Aiyl Okmotu level. Later, this issue will be raised at Aiyl Kenesh meetings.

**Korchubai uulu Erlan:** Vulnerable groups will be covered by separate activities and action plan/strategy will be developed in support of such groups.

**Question 4:** When will the construction of the facility start and when will it be completed?

**Erlan Korchubay uulu:** The construction will begin in June 2017 and according to the preliminary plan and will continue for 18 months.

**Question 5:** What length of water mains will be laid per day?

**Erlan Korchubay:** Once a contractor is selected, a calendar schedule of works will be developed and the best schedule will be settled upon.

**Question 6:** At whose expense will the household connections be made?

**Erlan Korchubay uulu:** Household connections will be made at the expense of the households.

**Question 7:** Does the design envisage water treatment? If so, what type of treatment?

**Korchubai uulu Erlan:** Water treatment will be mandatory part of the design. Without treatment, the design will not eligible for expert review and cannot be implemented. Bactericidal lamps are foreseen as treatment method.

**Question 8:** How is the safety of workers and population of the sub-project will be provided?

**Kerimbekova M.:** Local inspections controlling construction works and environmental safety and local population should be properly notified on forthcoming project works. Local communities will be properly notified on works by means of publications and /or notices in mass media and/or bill boards in public places (and at work sites). All permission required by legislation for use of waste landfill, as well as permissions from sanitary inspection etc. in construction and rehabilitation works at this site, have been obtained. All works will be carried out through safe and discipline methods to minimize negative impact from industrial process on population and environment. Individual protective means should meet safety standards (obligatory application of helmets, protective face masks, when needed, protective glasses, safety belts and boots). Sites will be provided with proper information boards and signs informing the workers about the rules and norms of works to be followed.

**The head of Kurama aiyl okmotu**

**Satarkulov O.**

**Safeguards Specialist:**

**Meerim Kerimbekova**

**Secretary**

**ПРОТОКОЛ**  
**Общественных слушаний по обсуждению**  
**Плана управления окружающей и социальной средой при реабилитации системы**  
**водоснабжения в подпроекте Курама рамках**  
**Проекта устойчивого развития сельского водоснабжения и санитарии.**

**Место и время проведения:** с. Панфиловка  
19 января 2017 г. в 11:00 часов

**Сатаркулов О.А.** – глава айил окмоту Курама открыл слушания, поприветствовав приглашенных и представила сотрудников АРИС, участвовавших в подготовке ПУРСВС.

**Корчубай у. Э.** – инженер проекта представил информацию о проектных решениях.

**Керимбекова М.** – специалист по мерам безопасности, представила презентацию о мерах социально-экологической безопасности, предусмотренных в проекте. Подробно рассказала об экологической безопасности, социальных мерах защиты.

Керимбекова М.: На данный момент разработана Проектно-сметная документация, в состав которой входит раздел «Охрана окружающей среды» (ООС), который получил положительное государственное экологическое заключение. Также был разработан План управления окружающей и социальной по снижению воздействия на окружающую и социальную среду.

**Вопрос 1:** Каков будет тариф за воду? Поднимутся ли цены?

**Ответ Корчубай у. Э.:** Тариф будет рассчитываться, органы местного самоуправления будут рассчитывать и устанавливать тариф по методике, по которой будет проводиться обучение, это будет также обсуждаться с айильным кенешем.

**Вопрос 2:** Не будут ли при строительстве системы водоснабжения нарушены поверхностные стоки, уровень поверхностных вод. Предусмотрены ли какие-либо меры по смягчению?

**Ответ Керимбекова М.:** Да, все меры по смягчению воздействия на водные ресурсы предусмотрены в ПУОСС: проектирование соответствующих водоотводных путей; отказ от земляных работ возле источников подземных вод; строительство защитных дамб для предотвращения нарушения водоносного горизонта. Строительство регулирующих сооружений, укрепление берегов, проектирование сооружений с оптимальным ограничением речного русла. Рабочие зоны с машинами, бетономешалками и топливными баками будут располагаться за пределами водоохранных зон. На объекте будут осуществляться соответствующие меры по предотвращению образования данных отложений, в том числе установка сенных тюков и/или отстойников ила с целью предотвращения сбросов с объектов и возникновения чрезмерной мутности в ручьях и реках, расположенных поблизости. Запрещено будет оставлять строительный мусор (бревна, камни и т.д.) на льду в зимний период строительства.

**Вопрос 3:** Что касается социально незащищенных слоев населения, будут ли они подключены к водоснабжению?

**Ответ Сатаркулов О.:** Социально незащищенные слои населения будут подключаться за счет местного бюджета, сейчас рассматривается этот вопрос на уровне айл окмоту, позже этот вопрос также будет поднят на обсуждение и в айльных кенешах.

**Корчубай у.Э.:** По социально незащищенным слоям населения будут проведены отдельные работы и разрабатываться план действий/стратегия по поддержке данных слоев населения.

**Вопрос 4:** Когда начнет строительство объекта и в какие сроки закончится?

**Ответ Корчубай у.Э.:** Строительство начнется в июне 2017 года по предварительному плану и будет продолжаться 18 месяцев.

**Вопрос 5:** Какая длина водовода будет прокладываться в день?

**Ответ Корчубай у. Э.:** Когда будет отобран подрядчик, будет составляться календарный график, будет выбираться оптимальный график.

**Вопрос 6:** За чей счет будут домовые подключения?

**Ответ Корчубай у.Э.:** Домовые подключения будут за счет населения.

**Вопрос 7:** Проект предусматривает обеззараживание питьевой воды? Если да, то какой вид обеззараживания?

**Ответ Корчубай у. Э.:** Обеззараживание воды предусмотрено в обязательном порядке. Без данного мероприятия проект не пройдет экспертизы и не сможет быть осуществлен. Вид обеззараживания-бактерицидные лампы.

**Вопрос 8:** Каким образом будет обеспечена безопасность рабочих и жителей подпроекта?

**Ответ Керимбекова М.:** Местные инспекции, контролирующие строительные работы и экологическую безопасность; местное население будет соответствующим образом информировано о предстоящих проектных работах. Местные сообщества будут соответствующим образом информированы о работах посредством публикаций и/или оповещений в средствах массовой информации и /или информационных досках в общественных местах (и на рабочих площадках). Должны быть получены все разрешения, требуемые законодательством для использования отвалов, а также разрешения от санитарной инспекции и т.д. в ходе строительных и реабилитационных работ на площадке. Все работы должны осуществляться с использованием методов безопасности и дисциплин для минимизации негативного воздействия промышленных процессов на население и окружающую среду. Индивидуальные средства защиты должны соответствовать стандартам безопасности (обязательное использование защитных шлемов, масок, при необходимости, ремней и обуви). Площадки будут оснащены соответствующими информационными досками и указателями, оповещающими рабочих о правилах и нормах работ.

**РЕШИЛИ:**

Участники общественных слушаний поддержали проект «Реабилитация системы водоснабжения в подпроекте Курама», как жизненно важный для бесперебойного обеспечения чистой питьевой водой жителей Кураминского айл окмоту. ПУОСС был одобрен жителями подпроекта.

Глава айл окмоту Курама



Сатаркулов О.А.

Специалист по мерам безопасности:

Керимбекова М.

Секретарь:



## СПИСОК

участников общественных слушаний по обсуждению  
Плана управления окружающей и социальной средой (ПУОСС)  
при реабилитации системы водоснабжения в подпроекте Курама

г.Бишкек

19 января 2017г.

№ п/п	Ф.И.О. участника	Организация/Должность	Подпись
1.	Султанов Ак	НОВИ спаситель РКЗ	Ак
2.	Саткошибаева А.Дж.	СКЗ	А.Дж.
3.	Чекиев Азизбеков Т.М.	ст. инженер	Т.М.
4.	Данаева С.З	зав.лаб. "Бишкек-Орго"	С.З.
5.	Мажирабекова А.	техник лаб. "Бишкек-Орго"	А.
6.	Стаффанов А.О.	ст. инженер течнр	А.О.
7.	Акматбеков Р.И.	стар. инженер течнр	Р.И.
8.	Бакытбек А.	стар. инженер течнр	А.
9.	Одирбекова А.Р	стар. инженер течнр	А.Р.
10.	Кадырбекова Б.	стар. инженер течнр	Б.
11.	Коногрова Е.	стар. инженер течнр	Е.
12.	Айдарбекова Ф.К.	стар. инженер течнр	Ф.К.
13.	Акматбеков Р.С.	стар. инженер течнр	Р.С.
14.	Акматбеков Р.С.	стар. инженер течнр	Р.С.
15.	Мурзаков К.	стар. инженер течнр	К.
16.	Дире-турбов А.	стар. инженер течнр	А.
17.	Рафисбеков А.	стар. инженер течнр	А.
18.	Акматбеков Р.	стар. инженер течнр	Р.
19.	Легасов А.	стар. инженер течнр	А.
20.	Нуржанов А.	стар. инженер течнр	А.
21.	Бекназарбеков А.	стар. инженер течнр	А.
22.	Бакытбеков А.	стар. инженер течнр	А.
23.	Акматбеков А.	стар. инженер течнр	А.

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участников общественных слушаний по обсуждению  
Плана управления окружающей и социальной средой (ПУОСС)  
при реабилитации системы водоснабжения в подпроекте Курдама

г.Бишкек

19 января 2017г.

№ п/п	Ф.И.О. участника	Организация/Должность	Подпись
1.	Чарыкова Б. А.	ин-штатный членов	Анастасия
2.	Онурбекова З. С.	житель с.Кондаковка	Оле
3.	Дисумалуков Б.	столятик	Бек
4.	Онурбекова Т.А	с.Кондаковка. бозор.	Оле
5.	Курманова Р.А	с.Д.и.и	Гюль
6.	Чекашевы А.Б	житель	Бу
7.	Бушаево Л.Т	с.Бакорчаковка	Ле
8.	Жемчукова Н.В	житель с.Бакорчаковка	Жемчук
9.	Токтогулова Т.Ж.	житель с.расей	Роза
10.	Узубалиев Т.А	житель с.расей	Узубалиев
11.	Реджепов Аббас с.	житель с.расей	Реджеп
12.	Сердюков Е.	пред.пред. ком.саф	Сердюков
13.	Садыковчуков О.Р.	житель с.р.Курдама	Садыковчуков
14.	Шеербек А.З.	житель с.расей	Шеербек
15.	Керимбеков Ж.	житель с.расей	Керимбеков
16.	Бакировчуков Р.	пред. СОППВ "Тажик-Река"	Бакировчуков
17.	Усопова Н.	вост. "Бешек-Ордо"	Усопова
18.	Шарипбекова Г.Т.	вост. "Бешек-Ордо"	Шарипбекова
19.	Анготекеско Н.А	вост. "Бешек-Ордо"	Анготекеско
20.	Жаныбеков С.А	вост. "Бешек-Ордо"	Жаныбеков
21.	Рамзанбеков Г.Н.	вост. "Бешек-Ордо"	Рамзанбеков
22.	Мухамеджанов А.	жил. расейческ. здрав	Мухамеджанов
23.	Керимбекова М.	специалист по инфраструктура	Керимбекова
24.	Коркудасов Ч.Т.	инженер АИИС	Коркудасов



## 8. SUPERVISION AND REPORTING

Field technical supervision engineer must be at the site at all times. In addition, safeguard specialist or infrastructure engineer of ARIS visits construction sites at least once a month in order to supervise fulfillment of ESMP during subproject implementation. More visits may be required if any issues are identified. If there are topical environmental issues, ARIS should continue its supervision during facility operation.

After site monitoring visit report of safeguard specialist should be submitted by coordinator of project. In the event of non-compliance with environmental protection measures, a statement specifying the remedial period for contractor should be drawn up.

«Environmental protection» section will be included in regular Progress Reports prepared by field technical supervision engineer and delivered to ARIS. The section should contain compressed information and briefly describe monitoring activities as well as any arising issues and the ways to address them.

The final responsibility for the implementation of the ESMP remains with the Project Implementation Unit (ARIS), as per the World Bank environmental safeguards, the bidding and contractual documentation will allow for the responsibility of implementing specific mitigation measures to be transferred to the contractor from the PIU.