KYRGYZ REPUBLIC

MINISTRY OF AGRICULTURE, FOOD PROCESSING AND LAND IMPROVEMENT OF THE KYRGYZ REPUBLIC

DEPARTMENT OF WATER RESOURCES AND LAND IMPROVEMENT

AGRICULTURAL PRODUCTIVITY AND NUTRITION IMPROVEMENT PROJECT

ENVIRONMENTAL MANAGEMENT PLAN

For subproject «Obi-Khaet», Bazar-Korgon rayon, Djalal-Abad oblast

Environmental consultant **T. Neronova**

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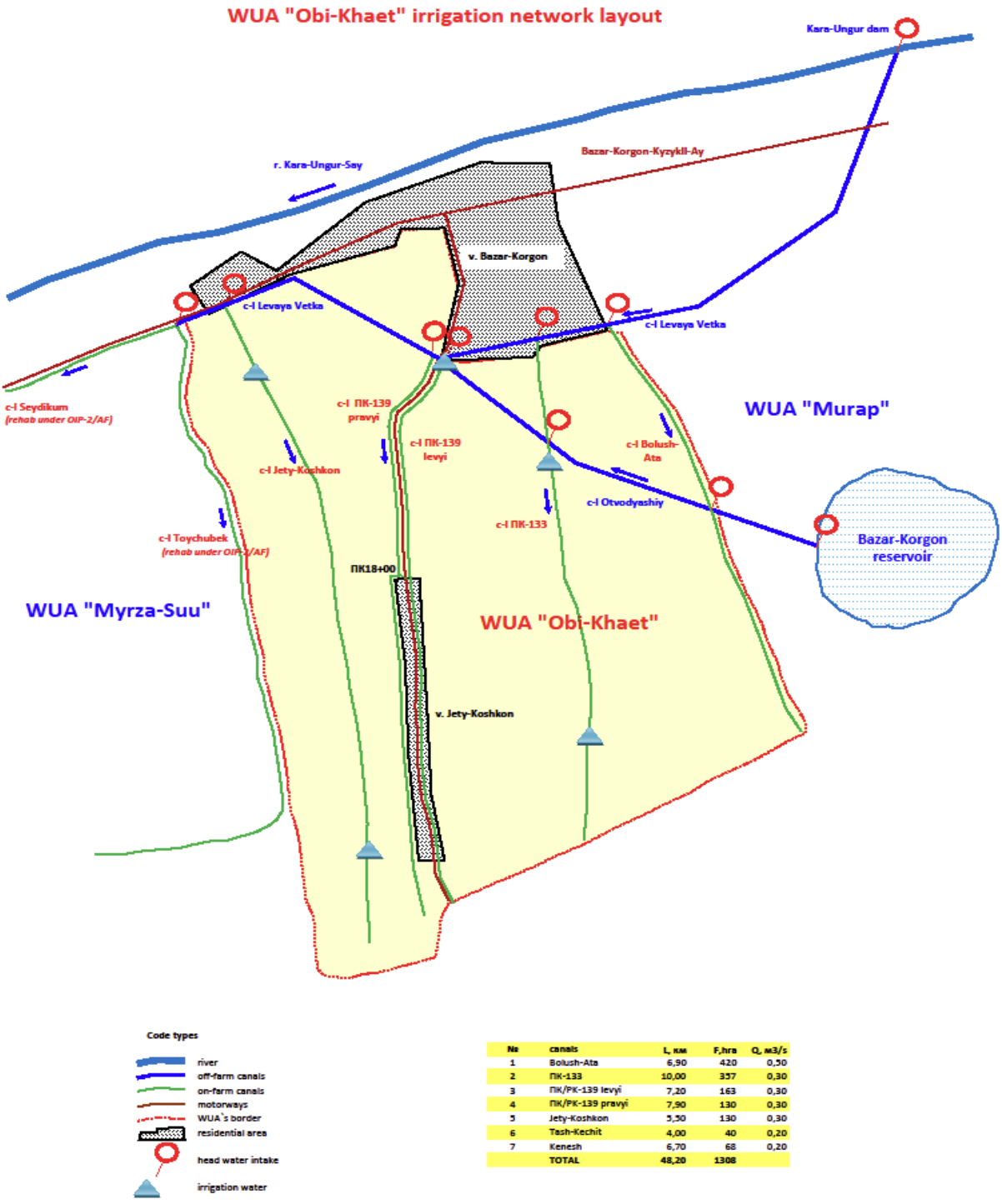
CONTENT

Acronyms

WUA	Waterusers association
NSR	Night storage reservoir
SAEPF	State Agency for Environmental Protection and Forestry
GPAFS	Global Program for Agricultural and Food Security
POL	Petroleum, oil, lubricants
SETI	State Environmental and Technical Inspectorate
DWRLI	Department of Water Resources and Land Improvement
OIP-2 AF	Additional Financing for OIP-2
CDN	Collector&drainage network
ER	Efficiency ratio
KR	the Kyrgyz Republic
IDA	International Development Association
AHS	Ameliorative Hydrogeological Survey
LSGA	Local self-governing authorities
EA	Environmental Assessment
E	Environment
PIU	Project Implementation Unit
OIP-2	Second On-farm Irrigation Project
ISF	Irrigation Service Fee
TS	Topsoil
AISP	Agricultural investments and services Project
APNIP	Agricultural Productivity and Nutrition Improvement Project
RSU	Rayon Support Unit
RVK	Rayon Irrigation Department (Rayvodkhoz)
SanPin	Sanitary Regulations and Rules
WBSMQRS	World Bank safety measures quality rating system
AAS	Agricultural Advisory Services
GWT	Ground Water table
O&M	Operation&Management
HP	Hydropost
HTS	Hydro-technical structures
SVL	Soil-vegetation layer
FRP	Forced resettlement plan
r.s	river system
m/s	meteorological station

1. Introduction

The Agricultural Productivity and Nutrition Improvement Project (APNIP) for the Kyrgyz Republic is implemented with the support of the International Development Association (IDA) and financed by the Trust Fund, provided by the Global Agricultural and Food Security Program. The general Environmental Management Plan (EMP) was prepared under APNIP. The EMP is addressed to ensure compliance of the Project with the environmental management principles and practice and, therefore, with the requirements of environmental protection policy and laws of the Government of the Kyrgyz Republic, as well as IDA environmental safeguards. The objectives of environmental assessment (EA) is to identify the significant impact(s) of the proposed Project on the environment (positive and negative), identify appropriate preventive and mitigation interventions aimed at preventing, minimizing or eliminating any expected irreversible impact(s). The EMP serves as a management tool that ensures proper implementation of interventions to prevent and mitigate the environmental impact(s), as well as monitoring and institutional acknowledgement of recommended activities during the implementation of the proposed Project. The EMP also establishes the necessary institutional obligations, proposes the implementation timing of such activities and cost estimates for their implementation within the budget proposed by the Project. APNIP in the World Bank safety measures quality rating system (WBSMQRS) is classified as "B". No irreversible or significant impact(s) on the surrounding environment is expected. Based on the general EMP, the Environmental Management Plan (EMP) for WUA "Obi-Khaet", Bazar-Korgon rayon, Djajal-Abad oblast rehabilitation has been developed, considering the specifics of this particular subproject.



№	canals	L, км	F,hra	Q, м3/s
1	Bolush-Ata	6,90	420	0,50
2	ПК-133	10,00	357	0,30
3	ПК/РК-139 levyi	7,20	163	0,30
4	ПК/РК-139 pravyi	7,90	130	0,30
5	Jety-Koshkon	5,50	130	0,30
6	Tash-Kechit	4,00	40	0,20
7	Kenesh	6,70	68	0,20
	TOTAL	48,20	1308	

Image 1. WUA «Obi-Khaet» irrigation network, Bazar-Korgon rayon, Batken oblast.

2. Description of the subproject under rehab

WUA “Obi-Khaet” located in Bazar-Korgon aiyl aymak, Bazar-Korgon rayon, Djalal-Abad oblast, 35.0 km off the city Djalal-Abad. The WUA`s service area - 1308 ha. The altitude of the area varies between 900-950 masl. The population of AA - 15,000 people. WUA “Obi-Khaet” established in 2002 and registered on 01.04.2002 and re-registered on 13.02.2003 (Certificate № 4136-3303-ОЮЛ), in accordance with the Law on Associations (Unions) of Water Users. The "Obi-Khaet" WUA annually abstracts the average 10 340.0 th.m³ of water from the r. Kara-Ungur-Sai. The average WUA`s efficiency - 0.56 and only 5 790.4 th.m³ of water reaches farmers' fields. According to the specialists’ projections, after rehab of canals completed, the efficiency factor will be up to 0.75 and farmers' fields will reach about 7,755.0 th.m³ of water. This makes it possible to increase the yields, resulting in ISF rise, and increased financial inputs into the MOM of the WUA`s irrigation network. WUA`s network does not cover NSR or dams, and there is no CDN on the WUA`s territory.

2.1 Salient features of the rehab subproject

2.1.1. Off-farm canals

The WUA abstracts water from off-farm canal "Levaya Vetka" (r.s Kara-Ungur-Say) and, during the critical period (July-August), canal “Otvodyashiy” that abstracts irrigation water from Bazar-Korgon reservoir, provides in-feeding to the canal “Levaya Vetka”. Off- farm network is in good condition, no significant problems observed, but it is required:

(i) construction of 5 water outlets and 4 HPs "fixed bed" on off-farm canal "Levaya Vetka",
(ii) construction of water outlet and an aqueduct on on-farm canal “Otvodyashiy”.

Off-farm canal is on the balance of Bazar-Korgon RVK, abstracts water from the r. Kara-Ungur-Say, through Kara-Ungur-Say dam. The canal was commissioned in 1954, 2011-2012 was rehabilitated under Water management improvement project (WMIP). The total length of canal is 15.78 km, off which 7.38 lined and 4.2 - flagstoned, 1.0 km - gabion mesh, remaining 3.2 km – earthbed. The command area – 9000 ha, canal`s maximum throughput 18.0m³/s. The off-farm canal “Otvodyashiy” is on the balance of Bazar-Korgon RVK, the total length – 6.90 km in earthbed, command area – 4800 ha, throughput capacity – 3.0 m³/s.

2.2. on-farm canals

The total length of on-farm canals - 48.20 km, of which 1.60 km - concrete lined, remaining 46.60 km - earthbed. Most of the on-farm canals in earthbed and is the main reason wahy sufficient part of irrigation water getting lost on its way to a wateruser. Due to a shortage of funds, water outlets and metering facilities, HPs and pipe-crossings are in an emergency condition.

2.2.1. on-farm canal “Bolush-Ata”

Canal “Bolush-Ata” abstracts water from off-farm canal "Levaya Vetka" and also makes in-feeding from off-farm canal “Otvodyashiy” (July- August). The canal`s length - 6.90 km, of which 1.60 km - concrete lined, remaining 5.30 km - earthbed, the subject to rehabilitation is 1,687 km. The command area is 420 ha, the design flow rate is 0.5 m³/s. The upper reach of canal passes in gravel soils, resulting in filtration losses of water. Water distribution complicated due to faulty water outlets. Water metering is not executed because water metering device in emergency condition. Vehicular transportation is also perplexed, as pipe-crossings non-functional. To combat water losses, the Project provides lining with monolithic concrete of upper reach of the canal from PK0 + 00 to PK16 + 87 at the length of 1687 m.

2.2.2. on-farm canal ПК/РК-133

The canal abstracts water from off-farm canal "Levaya Vetka" and also makes in-feeding from off-farm canal “Otvodyashiy” (July- August. The canal`s length - 10.0 km in earthbed, the subject to rehabilitation is 2.30 km. The command area - 357 ha, the designed flow rate is 0.30 m³/s. The canal completely in earthbed, resulting in water filtration losses. Water distribution complicated due to faulty water outlets. Water metering is not executed because water metering device in emergency condition.

2.2.3. on-farm canal ПК-139

The canal abstracts water from off-farm canal “Levaya Vetka”, the length – 7.90 km in earthbed, of which 1.80 km have to be rehabilitated. The command area 130 ha, the designed flow rate – 0.30m³/s. The canal completely in earthbed, resulting in water filtration losses. Water distribution complicated due to faulty water outlets. Water metering is not executed because water metering device in emergency condition. Vehicular transportation is also complicated as pipe-crossings in emergency condition.

2.2.4. on-farm canal “Jety-Koshkon”

The canal abstracts water from off-farm canal “Levaya Vetka”, the length – 5.50 km in earthbed, of which 2.38 km the subject of rehabilitation. The command area – 130 ha, the designed water flow – 0.30 m³/s. The canal completely in earthbed, resulting in water filtration losses. Water distribution complicated due to faulty water outlets. Water metering is not executed because water metering device absent. Vehicular transportation is also complicated as pipe-crossings in emergency condition.

3. Description of activities executed under the Project

3.1. on-farm canal «Bolush-Ata”

Within the Project`s framework the following types of workload planned:
- To improve water distribution, construction of 5 tail reach pipe outlets;
- To improve water metering, construction of a "fixed-bed" HP;
- construction of 2 pipe-crossings for vehicular transportation.

3.2. on-farm canal ПК-133

Within the Project`s framework the following types of workload planned:
- To combat water losses, reinforced concrete lining at the length of 2300 m;
- To improve water distribution, construction of a "fixed-bed" HP and 9 tail reach pipe outlets;
- To receive drained water from the upper fields, construction of 2 water inlets into the canal (with a water outlet and a pipe-crossing).

3.3. on-farm canal ПК-139 (pravyi)

Within the Project`s framework the following types of workload planned:
- To combat water losses, reinforced concrete lining at the length of 1800 m;
- To improve water distribution and metering, construction of a "fixed-bed" HP and 5 water outlets;
- construction of 4 pipe-crossings for vehicular transportation.

3.4. on-farm canal "Jety-Koshkon"

Within the Project`s framework the following types of workload planned:
- To combat water losses, reinforced concrete lining at the length of 2380 m;
- To improve water distribution and metering, construction of 8 tail reach pipe outlets and "fixed bed" HP;
- construction of 2 pipe-crossings for vehicular transportation;
- To receive drained water from the upper fields, construction of a water inlet into the canal.

Rehab of reservoirs, dams and dykes is not planned. Therefore, the policy on irrigation dams and reservoirs (Dam safety - OP 4.37) is not applicable. Construction and rehab works deadline: October 2018-2020.

4. Description of environmental parameters at the site

4.1. Climate

The climatic specifics of the rayon is given in accord with m/s «Masy». The rayon is indicative with hot and extended summer and short moderately cold winter:

- average annual air T˚C +11,9º
- average annual air T˚C during vegetation period +22,6º
- absolute air T˚C maximum +42º
- absolute air T˚C minimum –23º
- average maximum air T˚C for hottest month +33,5º
- average multiannual precipitation volume per annum 470 мм
- volume of liquid precipitation per annum 389 мм
- weight of snow-cover per 1m² of horizontal earth surface 51,0 kgf/m^2

4.2. Landscape

The nature of WUA "Obi-Khaet" landscape is attributed to the south-western spurs of the Ferghana Tien-Shan Ridge. The surface in the geomorphological zone of foothill plains, which is genetically related to the erosive-accumulative rivers`, streams and seasonal watercourses` activity. The absolute marks are in range of 650-950 masl. The planned workload will not damage the soil and will not affect the landscape. The object is located on WUA territory; the general slope is directed from north to south. The canals mainly designed with a slope from the northeast to the southwest with the slope of 0.0033 to 0.0099.

4.3. Geo-engineering conditions

The geological-lithological structure along the route of WUA`s on-farm canals is represented by alluvial-proluvial deposits. The surface has a thick layer of loess-like clayey soils - loams. Loams of light gray color, dry, macroporous, solid, with inclusion of carbonate deposits. Ground thickness from 0,6 to 2,0 m. Below the loamy soil is gravel soil.
The physical characteristics of loams as follows:

- natural weighed humidity 7,87%
- specific weight 2,71 g/cm^3
- volumetric weight 1,61 g/cm^3
- bulk density 1,49 g/cm^3
- plastic index 9,2
- maximum molecular moisture capacity 15,79%
- porosity ratio 0,815

- filtration ratio 20,0 m/day

The loam belongs to the II-building development difficulty category. The standard pressure is up to 2.0 kg/cm² (SNiP IV-5-82). Gravel soil with sand aggregates up to 40% and pebble content up to 10%. The bulk density of the soil is 1.85 t/m³. The gravel soil belongs to the III-building development difficulty category. The thickness of gravel soil is more than 10.0 m. The depth of groundwater is more than 90.0 m. Stony and non-cultivable soils absent. The seismicity area is 9 points.

4.4. Hydrology

The main source irrigation for WUA "Obi-Khaet" is the r. Kara-Ungur-Say. The r. Kara-Ungur-Say is the left tributary of the r. Kara-Darya, and is formed by the confluence of the rr. Arslanbob and Kyzyl-Unkur, originating from the Babash-Ata and Ferghana mountain ridges. The river length - 127 km, the basin`s area - 4130 km². The river water is fresh, type of mineralization is bicarbonate-calcium-magnesium. The rain and groundwater are the main feeding sources, as well as thawed snow and glacial waters. The average multiannual water flow is 29.6 m³/sec. The off-farm canal “Levaya Vetka” delivers irrigation water for WUA "Obi-Khaet" arable lands. At those areas there are no entities that discharge pesticides/toxic chemicals and sewage into the source of irrigation.

Average multiannual water flow the r. Kara-Ungur-Say

average water flow m^3/s												Q_{aver}, m^3/s	
I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**	**XI**	**XII**	**year**	**vege. period**
5,50	7,50	20,20	51,10	53,20	31,10	31,40	31,80	34,50	7,10	10,30	8,10	24,32	38,85

monthly mean runoff, th.m³												W_{year} th.m³
I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**	**XI**	**XII**	
14729	18143	54096	132451	142470	80611	84089	85160	89424	19014	26698	21692	768 576

3.5. Vegetation cover

Vegetation cover: tree and shrubbery vegetation, herbaceous plants. The SVL will not be disturbed, because (re)construction workload will be executed on existing facilities. The works will not affect agricultural irrigation fields, because all rehabilitation facilities are beyond their borders. During the canals` rehab process the permission for tree surgery will be needed. According to the requirements of the Water Code of the Kyrgyz Republic, Art. 80 p.3., while carrying out repair and rehab works, cutting of shrub vegetation and trees that are within the alienation zones of water management structures and canals, as well as sanitary cutting and deadwood cutting, do not require permission from specially authorized state bodies. At the same time, prior to commencement of works, the Contractor will inform the environmental protection agency on forthcoming works concerning cutting of tree and shrubbery vegetation. If (re)construction works are executed in areas not related to the alienation zones of water facilities, deforestation of tree and shrubbery vegetation should be carried out in accordance with permit issued by a specially authorized environmental protection body.

5. Description of procedures related to regular operation workloads

5.1. Technical surveillance on canals and HTS condition

In the operational scheme activities, the paramount importance is paid to the timely conduct of preventive and rehab workloads that exclude probability of a system failure, while complying to the rules of its operation. The main indicators of a normal technical condition and a reliable operation of the on-farm irrigation network are provision of designed canal's throughput, minimum filtration and performance specification water losses, absence of sedimentation, greenery overgrowing, collapse and canal's erosion. If the actual canal's capacity corresponds to the estimated throughput, then the technical condition of a canal is good and considered as reliable. If there are 20 -25% throughput deviations, then a canal's reliability is reduced, and the technical condition is average. If the deviations are more than 25%, then a canal's performance considered as unreliable and its technical condition is below the average. To ensure a canal's throughput, it is necessary to conduct a careful monitoring over water regulating structures. The water volumes regulating structures must be easily and reliably (re)adjusted and controlled. While operating water regulating structures, it is necessary to ensure that there is no water leakage through the water outlet/inlet gates and no canals' erosion and destruction observed on its structural parts. Expansion and (re)construction of a canal's lined sections and joint sections are the subject of constant surveillance. The damaged lining must be reworked immediately. A canal's lined and unlined sections and HTS daily maintenance (cleaning, desilting) must be executed on a permanent daily basis to prevent cracking, to ensure proper performance and removal of floating debris that hinder a canal's performance. A particular attention must be paid to subsiding soils, as concrete lining on those soils is prone to cracks formations, leading to irreparable damages, if lining failure appears it should be reworked without any delay.

The joint sections of a canal, with prefabricated reinforced concrete slabs, are the subject of particular attention. Constant surveillance of which is necessary and, if there any urgency, must be treated with resilient watertight materials that can withstand a vegetation impact. Within the concrete flumes it is prohibited to dissolve various types of fertilizers that may cause destruction of concrete. It is also not recommended to operate concrete flumed network if water flow temperature is below -5 - 10°C. Therefore, in the process of preparing the network for the winter, the whole canal's route must be completely absent of water. The livestock crossing and pasturing on canal's dams and slopes is strictly prohibited. The livestock drinking and dipping allowed on a special canal's sections only. To monitor the quality of irrigation water and prevent a canal's sedimentation, the water samples must be regularly inspected for the following indicators: turbidity, temperature, hydrogen index and mineralization.

5.2. Preparing on-farm network for the winter period

In the winter period, the on-farm irrigation network can be used for water charging irrigation, washing off and other types winter watering, as well as for supplying water to the residential areas and livestock farms, filling up reservoirs. The control over canals and structures operation, in the winter, should be paid a particular attention, as to prevent formation of ice jams near bridges, crossings, etc. The trash racks that were set for the summer in front of water structures, must be removed for the winter. When frosts are formed and HTS are covered with the ice, in this case the ice must be chipped without disturbing integrity of the structures and canal's lining/coating.

5.3. Looking after wood lines and access roads

Forest plantations alongside of a canal are designed to protect a canal from vegetation overgrowing, lowering the level of groundwater alongside a canal's route and reducing the adverse effect of wind force on agricrops. Alongside of permanently embedded canals within the farm network that require constant desilting interventions, it is recommended to create, on the one side, two-row or three-row strips of fast-growing trees and shrubbery. The distances between trees in the strip is 1-3 m, between bushes - 0.75 - 1 m with the distance between greenery strips of 1.5 - 3 m. The field and on-farm roads on irrigated area, as a rule, are ground roads. If they pass through silty loams and solonchaks, then a road is made of gravel or other coating. A road maintenance is reduced to keeping the upper layer in good condition. The thickness of gravel coated roads is maintained within 8 - 10 cm. The roadbed condition is also the subject of maintenance and must be periodically planned and compacted. Roadside cuvettes and canals must be cleaned off dirt and vegetation. To improve the water flow into cuvettes, the roadways must be made with slopes and with a slight lateral inclination from the middle to the cuvettes.

5.4. Repair workloads

The irrigation schemes are subject to repair workloads according to the annually developed and approved plans. In the irrigation and drainage systems operation practice, the current, major and emergency repair workloads are executed.

The current repair works executed annually including desilting of canals, removal of vegetation, strengthening and widening dams, cleaning berms, eliminating small landslides, collapses, rifts and sandspits, repairing damaged anchorages and canals' lining, repairing small damages of a structural parts. While carrying out current repair works, a complex technical upgrading and modifying a structural construction is not included. The preventive (prophylactic) repair workloads include:

- Patching ratholes;
- Structural cracks maintenance after ice impact;
- Tightening fixing bolts;
- Drainage structures winterization etc.

The preventive repair and a significant part of the current repair, including desilting of canals, vegetation and landslides removal, a minor canal repair(s), repair of structures, buildings and other devices are performed annually without stopping the scheme's operation.

The major repair is executed, as required, within a few years' period and includes: repair workloads on a canal's sections, dams and parts of a structure attrition and destruction, structural modification or replacement of certain elements and structural units.

The emergency repair is rehabilitation of canals, dams and structures or parts of them, destroyed as a result of natural phenomena (mudslides, floods, etc.), or violations of the technical operation rules, execution of which carried out 24/7, and all available material and technical resources and labor resources are mobilized for the execution of emergency repair.

Rehab and (re)construction workloads on the on-farm network canals performed by WUAs contracting a construction company. Repair works expenses and operation of the on-farm network are annually provided by the WUA's budget.

5.5. Desilting of canals and vegetation removal

The solid particles of soil form sedimentation that moved around by water flow. The content of solid particles, per water volume unit, characterizes the water flow saturation with sediments, or its turbidity. Sediments, often, are formed as a result of soil wash-away in the catchment basin via snow/glaciers melting and rain waters. Partly the sedimentation is a product of a canal/river bed and banks erosion. The largest bed's sedimentation with pebbles and coarse sand observed and remain at the head section of a bulk water supply canal. The average sized sediment particles washed into a canal's distribution network and even into on-farm irrigation network. On average, about 80% of sediments remains in the off-farm canals network and about 20% inflows into on-farm irrigation network. A canal's slopes have an impact on sedimentation process, if an inclination is too steep then about 60% of sediments washed in on-farm network and fields. Desilting executed on an annual basis and, if necessary, more often.

6. Environmental impact

Implementation of APNIP is addressed to provide economic, social and environmental benefits to farmers, farming entities and local communities through WUA's development, the rehabilitation and modernization of irrigation and drainage infrastructures in projected areas. The best practices of previous Projects demonstrate positive impacts on the environment. Namely, this Project is aimed at reducing water losses in irrigation schemes, improving water resources management, scaling up agricultural productivity and improving soil fertility. The Project workloads require compliance with a number of mandatory requirements, including strict compliance with noise reduction, air quality, timely removal of solid and liquid domestic waste, construction debris. The requirements for the prevention of environmental pollution and negative impact on the population are provided by the Law of the Kyrgyz Republic "General Technical Regulations for Ensuring Environmental Safety in the Kyrgyz Republic", the Law "On Production and Consumption Wastes", the Law "On Protection of Atmospheric Air", SanPin "Noise in the workplaces, in premises of residential, public buildings and on the territory of residential buildings" the Governmental decree of the KR, dated 11/04/2016. №201,

6.1. Expected positive environmental impact

The positive impact consists of:

- Water losses reduction;
- Improved water resources management, consisting of construction and rehabilitation of water distribution and water-metering structures;
- Scaling up agricultural productivity;
- Improved soil fertility by increasing humus while applying an efficient irrigation schedules.

6.2. **Potential negative environmental impact**

At the same time, while carrying out irrigation network (re)construction works, there may be some potentially negative impacts on environmental conditions in the projected areas that require attention, preventive actions, and appropriate mitigation measures during planning, development, construction, operation and maintenance. While performing the planned irrigation networks rehabilitation works, no asbestos-containing materials will be used. It is necessary to mention that previously asbestos cement pipe crossings were used. But they were replaced with structures of more inert materials and, at the moment, problems with asbestos-containing materials are not foreseen. Thus, no issues concerning asbestos-containing materials are expected. In the case(s) if asbestos-cement pipes will be detected, asbestos-containing materials will be stockpiled, transported and finally disposed, and specific protective interventions will be executed in accordance with the hazardous wastes standards handling and disposal. For detailed information concerning the asbestos-containing materials removal, see section 10. The potential negative

impacts are relatively minor, and positive economic, social and environmental benefits far outweigh them in environmental assessment. The consideration of these impacts is given below.

6.3. **Impact on climate change**

The irrigation and drainage schemes rehab will enhance the agricultural and farming practices, improve materially-technical procurement, land owning, pastures and water management, resulting on productivity increase and adaptation to climate change, and sustainable use of natural resources.

Table 2. Assessment and ranking of environmental risks

Activities	Impact	Type	Duration	Term	Degree	Risk	Reversibility	Probability
construction phase								
Construction site location	Soil contamination at a construction site as a result of storage, construction and household waste, including liquid wastes.	direct	short-term	immediate	low	low	reversible	average
	surface water and ground water contamination at a construction site, as a result of stockpiling of construction and household waste, including liquid waste	direct	mid-term	immediate or delayed	low	low	reversible	low
uploading of excavated soil during (re)construction of a canal's bed	the landscape degradation, destruction of the animal world habitat	Direct	Mid-term	Immediate	Low	Low	Reversible	Average
construction materials transportation, heavy machinery use	air pollution and noise impacting the population/workers while heavy machinery and vehicles use	Direct	short-term	Immediate	Low	moderate	Reversible	High
canals rehab	Damage and trees felling and shrubbery cutting	Direct	long-term	Immediate	High	Low	Reversible	High
Operation and maintenance phase								
earth-bed canals and drains cleaning while in operation	landscape and animals' natural habitat degradation	Direct	Mid-term	Immediate	Low	Low	Reversible	Average
increase in irrigation water volumes delivery, which	surface water pollution with agrochemicals, as a result of	indirect	Mid-term	delayed	moderate	moderate	Reversible	Average

increases the volumes of waste water	excessive application of pesticides and mineral fertilizers							
increase in irrigation water volumes increase affects the surface water filtration and GWT	GWT increase as result of excessive irrigation and leads to waterlogging and soils mineralization	indirect	long-term	delayed	moderate	moderate /low	reversible	high
increase in irrigation water volumes supply that leads to water speed increase	soil erosion related to existing agricultural production practices	indirect	long-term	delayed	moderate	moderate	Reversible	Low

7. Environmental management and monitoring plan (EMP)

All the (re)construction phase risks are easily monitored and eliminated. They can be minimized by properly designing mitigation measures and monitoring the Contractor, while executing workloads. The activities undertaken will not affect the existing ecological situation. Before lining of canals, the washed out areas will be restored and further gullying formation will cease. Improving the irrigation system will create optimal conditions in the surface layer (temperature and humidity), reduce deformation of the soil, and improve the local landscape. During the (re)construction work, felling of trees and shrubbery alongside of alienation zones will be executed in accordance with the Water Code (Article 80, para. 3.) requirements, and in agreement with the specially authorized body for environmental protection. Among the O&M risks, the risk of landscape and animals' natural habitat degradation, while cleaning earth-bed canals and drains, is clear and easily controlled. The risks of surface and groundwater pollution by agrochemicals, due to excessive use of pesticides and mineral fertilizers, soil erosion associated with the existing practices of agricultural production, increase of near-surface (shallow) groundwater table, due to excessive irrigation and, as a consequence, soil salinization, require a specific monitoring. The need for environmental mitigation interventions, while on O&M phase, is determined exactly in the process of environmental monitoring.

Table 3: Mitigation plan

Phase	Issue	Preventive/ Mitigation interventions	Cost, US $		Institutional responsibility		Control
			implementation	operation	implementation	operation	
Construction	organizing a construction site	1) it is prohibited to locate a construction site in the water protection zones and canals; 2) to ensure removal of all waste and construction rubble from (re) construction sites to dispose on the authorized municipal landfills, with the permission of local authorities 3) to execute planning and restoration interventions to restore troubled lands during and after completing (re)construction	n/a	Part of the Contract`s (re)construction works 470 000	PIU/Contractor	contractor	1) A Contractor bears responsibility to execute environmental mitigation interventions; 2) A construction site inspections executed by PIU; 3) SAEPF
	earthbed after desilting of a canal	executing rehab and planning works	n/a		PIU/Contractor	contractor	1) A Contractor bears responsibility to execute environmental mitigation interventions; 2) A construction site inspections executed by PIU; 3) SAEPF
	trees and shrubbery	coordinating with the specially authorized environmental protection body on trees and shrubbery felling/cutting located beyond the alienation zones of a canal;	n/a	Part of the Contract`s (re)construction works	PIU/ Contractor	contractor	1) A Contractor bears responsibility to execute environmental mitigation interventions; 2) A construction site inspections executed by PIU; 3) SAEPF

	vehicular emissions into the atmosphere	1) vehicular exhaust systems and construction machinery should be in good condition, in order to minimize air pollution; 2) Limiting the speed of vehicles and selecting suitable transportation routes to minimize dust emissions; 3) Moisturizing the road surface while driving through the residential area territories	n/a	Part of the Contract`s (re)construction works	PIU/CONTRACTOR	contractor	1) A Contractor bears responsibility to execute environmental mitigation interventions; 2) A construction site inspections executed by PIU; 3) SAEPF
	noise impact within labor area	machinery and equipment operation	n/a	Part of the Contract`s (re)construction works	PIU/CONTRACTOR	contractor	1) a contractor bear responsibility to execute workers' health and safety activities; 2) SAEPF
	Workers' and rural population health and safety	1) construction sites will be equipped with information and designator boards concerning working regulations and requirements; 2) easily accessible and complete first aid kit to treat an injury. 3) ensuring personal protection equipment (helmets, protected shoes, gloves); 4) limiting access to (re)construction sites, zones, equipment locations and other potentially dangerous places by local citizens.	n/a	Part of the Contract`s (re)construction works	PIU/CONTRACTOR	contractor	1) a contractor bear responsibility to execute workers' health and safety activities; 2) SAEPF
operation	threats to water quality due to water contamination with agrochemicals	- conducting training(s) on improved pest control/pesticides application practice. - Application of agrochemicals in accordance with recommended standards - Prevention of waste water ingress into canals and surface water bodies	n/a	n/a	AAS/AISP	WUA members	RSU on-site check, compliance and coordination with SAEPF RSU on-site check, compliance and coordination with SAEPF

	increase of soil erosion climate change impact	- training(s) on water use and soil management. - awareness raising campaign; - adequate use of irrigation water and irrigation in accordance with irrigation schedule; - lining up of irrigation furrows on the lowest slopes (transverse furrows); - shortened furrows length; - change or irrigation technology (sprinklers, drip irrigation). - climate change mitigation measures training; - compliance to irrigation norms and regimes	n/a n/a	n/a n/a	AAS/AISP AAS/AISP	WUA members WUA members	RSU on-site check RSU on-site check,

Table 4. Environmental monitoring plan

Project Phase	Parameter	Location	Method/ Equipment	Frequency	Objective	Costs		Responsibility	
						Organization	Performance	Organization	Performance
baseline	salinity, concentration of hydrogen ions (pH), water turbidity	the head and tail end of irrigation system of r. Kara-Unkur-Say	Field equipment for parameters measurement	At the beginning, in the middle and at the end of vegetation season	Rehabilitation works and agricultural activities impact assessment	0	insignific ant	RSU takes samples	water sampling and analysis
construction	Site-specific EMP	subProjects under rehabilitation	Visual inspection of subProject	Before, during and after completion of construction	Compliance with environmental protection measures	0	Insignific ant	PIU/Contra ctor	PIU/Contract or
	Salinity, concentration of hydrogen ions, turbidity	Canals under rehabilitation, located upstream and downstream of the rehabilitation site	Field equipment for parameters measurement	prior and after construction workload completion	assessment of construction works impact	0	insignific ant	RSU	water sampling and analysis. Introduction of results to PIU
	Pollution of watercourses by petroleum, oil and lubricants	Selectively for subProjects when suspected of contamination. Downstream of rehabilitation subProject	Sample for laboratory analysis	During construction	Civil works impact assessment	0	100 USD	Contractor	Accredited laboratory Water sampling and analysis. Introduction of results to PIU
operation	the salty content in the soil	problematic locations	soil sampling /analysis	quarterly	soil quality ratio	0	USD 300	AHS	AHS
	Salinity, concentration of hydrogen ions, turbidity	the head section of WUAs of r. Kara-Unkur-Say irrigation system	Field equipment for parameters measurement	prior and at the end of the vegetation season	irrigation and waste waters quality grading	0	Insignific ant	RSU	RSU

8. Stockpiling, transportation and disposal of asbestos containing materials

Asbestos-containing materials disposal will be executed in accordance with the local legislation, including construction standards, occupational health and safety regulations, emissions of harmful substances into the atmosphere, disposal/removal of construction and hazardous wastes (in cases of a specific domestic legislation absence, the European Parliament Directive 2003/18/EU, which amends and updates the EU Directive 83/477/EEC on protection of workers against workplace exposure to hazards from asbestos and asbestos containing materials: the air pollution thresholds are 0.1 fiber/cm^3, and also use the recommended standards Notes: Asbestos: "Health problems at the workplace and in the community", the World Bank). The asbestos materials are subject to immediate unconditional disposal/entombment in special conditions.
In accordance with the Government of the Kyrgyz Republic's Order No. 885 "On Management of Hazardous Wastes in the Kyrgyz Republic, December 28, 2015," asbestos-containing wastes should be disposed the following order:

In accordance with the Government of the Kyrgyz Republic's Order No. 885 "On Management of Hazardous Wastes in the Kyrgyz Republic, December 28, 2015," asbestos-containing wastes should be disposed the following order:

- The process of handling hazardous wastes (waste lifecycle) consists of the following stages: generation, accumulation (collection, temporary storage, stockpiling), transportation, neutralization, recycling, reuse of processed products and disposal/entombment.
- If there is asbestos on a construction site, it should be clearly marked as a hazardous material. Asbestos-containing materials should not be cut or destroyed, as this leads to dust formation. During the (re)construction, all workers should avoid crushing/destroying the asbestos-containing waste, store such waste(s) in designated areas on a construction site and properly dispose thereafter in a special place or landfill.
- When asbestos-containing wastes are to be temporarily stored at a designated area(s)/construction site, they should be properly placed in sealed containers and marked appropriately as a hazardous material. Precautions must be taken to prevent unauthorized disposal of such wastes from a designated area/site.

8.1. Storage and stockpiling

- The asbestos containing materials extraction should be minimized through the use of efficient technologies
- All asbestos containing materials should be recycled and disposed by the experienced specialists. The specialists are obliged to wear protective outfit (face masks, gloves, uniform)
- The stockpiled wastes, on a designated area(s), should not exceed established volumes/requirements.
- The access roads for removal of industrial and construction wastes from a designated area(s) should not be obstructed.
- While handling asbestos containing wastes, all operating staff members should wear protective outfit (facemask, gloves etc.). Prior to removal of asbestos waste (if necessary) the stockpiled area should be treated with a moisturizing agent to minimize emission of asbestos containing dust. Disposed asbestos should not be reused.
- Storage of inappropriate items, individual protective or working outfit is strictly prohibited at the designated asbestos waste(s) locations.
- During handling operations, all workers should strictly follow the asbestos treatment requirements, and health and safety requirements. All operations should be executed with the use of mechanized machinery, elevating and transportation equipment.

- Hazardous waste(s) should be transported by the superficially equipped Vehicles to the landfill locations, either contracted, or owned. The Vehicles should be designed and used in such a way, as to prevent possible incidents, losses and pollution of the environment, both on the way to the disposal site location, and during the (re)loading of waste from one vehicle onto another. All types of handling and transportation of waste operations from/to the main and supporting facilities should be mechanized, and an airtight equipment used. It is strictly prohibited, during the transportation, to open the hazardous waste containers.
- Solid and dusty wastes are the subject of transportation in a specially designed containers, equipped with gripping devices for (un)loading by cranes. The transportation of asbestos wastes on the open-bed vehicles and railway cars is strictly prohibited.
- The use of hooks and other sharp tools, while processing the waste, is strictly prohibited.
- The driver of the Vehicle, transporting hazardous waste and authorized accompanying staff only, are allowed on the Vehicle(s). the Driver(s) must be aware of the safe transportation requirements.

  All handling, transportation, (un)loading and disposal of waste must be mechanized. The waste must be transported in such a way, as to prevent transport losses and impact on environment.

8.2. Disposal of asbestos containing wastes

Asbestos-containing waste must be disposed in municipal solid waste dumps or non-recyclable industrial solid waste damp yards.

9. Legislative support

In the Kyrgyz Republic, there are a number of environmental protection laws, regulations and requirements, which address specific issues of environmental protection. Table 5 summarizes the legal norms relevant to this Project.

Table 5: The main subordinate legislations, regulations and requirements

Legal authority	Legal mandate
Constitution (2010)	The state's ownership of natural resources, rights and duties of citizens.
Water Code of the Kyrgyz Republic (2005)	It identifies the state policy, legislative and institutional basics on water resources management and protection
Law on environmental protection (1999)	It identifies state policy on environmental protection, legislative and institutional basics on water resources management and environmental protection
Law "General technical regulation on ensuring environmental safety in the Kyrgyz Republic" (2009)	The Regulation determines the main provisions of technical regulation in the field of environmental safety and establishes general requirements for ensuring environmental safety while designing and implementing of interventions within economic and other types of production activities, storage, transportation and production disposal.
Law on environmental expertize (1999)	It requires review of environmental protection issues (environmental appraisal) and prevents negative environmental impacts and human health as a result of economic and other activities
Law on specifically protected natural reservations (2011)	It establishes regulations for specially protected natural areas, various types and/or levels of economic activity.

Law on protection of atmosphere (1999)	It regulates emissions to atmosphere and specific obligations on protection of atmosphere
SanPin "Noise on the workplaces, in premises of residential, public buildings and on the territory of residential buildings" the Governmental decree of the KR, dated 11/04/2016. №201,	Establishes a sanitary-epidemiological requirements, standardized parameters and maximum permissible noise levels at (re)construction sites, noise classification, permissible noise levels in the Projected rooms, (re)construction sites, (re)constructed and operated residential, public buildings and on the territory of residential buildings.
the GovKR. Provision No.224 of 03/05/2013. "On approval of fees for calculating the amount of penalties for damages caused to objects of animal and plant life, mumijo-containing mineral materials and mushrooms by legal entities and individuals"	Fees designed to ensure preservation of biodiversity, proper protection of flora and fauna

The Government of the Kyrgyz Republic ratified a series of international conventions on environmental protection and agreements, related to this Project:

- Convention on environmental impact assessment of the transboundary territories Espoo(2001);
- Agreement on cooperation in environmental protection and efficient use of natural resources (Kyrgyz Republic, Kazakhstan, Uzbekistan) (1998),
- Convention on wetlands, representing the international importance for the waterfowls main habitat (Ramsar Convention) (2002);
- Convention on right to use international watercourses as transport routes (1997), Agreement on the use of water structures for interstate purposes on the Chu and Talas Rivers (Kyrgyz Republic and Kazakhstan) (2000);
- the United Nations Framework Convention on Climate Change (2000 г.);
- Kyoto Protocol (2003).

10. Awareness rising campaign, consultations and public attendance

10.1. Public consultations

In accordance with Operational Procedures OP4.01.[1] The WB has special requirements for disclosure of information and public consultations. The disclosure includes introduction of information about the Project affected population (PAP) and other stakeholders, from the Project's early implementation cycle, and throughout lifecycle of the Project. The information disclosure is intended to facilitate comprehensive interaction with the Project affected population, and stakeholders throughout the lifecycle of the Project. Moreover, the Kyrgyz Republic is a member of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, the United Nations Economic Commission for Europe, which also contains provisions for ensuring the disclosure of the objectives and environmental considerations of the Project.

The Public hearings in village Bazar-Korgon held on October 9, 2018, which was attended by 45 people: WUA representatives, local authorities, farmers, WUA RSU, design engineers, PIU. The public hearings delivered a general info on the Project, as well as technical solutions and activities

[1] The World Bank operational procedures 4.01, "Environmental Assessment", Para. 3.

that will be undertaken to prevent and mitigate impact(s). the attendees asked several questions on EMP. The Minutes of the public hearings and images applied.

10.2. Grievance redress mechanism (GRM)

Objective. The primary target of GRM and population's statements is identification, registry and assistance in solving complaints that were stressed during the Project activities.
The GRM main principles are:

(i) Protection of Citizens' rights;
(ii) Transparency;
(iii) Accessibility to a free GRM mechanism and without follow-up prosecution;
(iv) Appropriateness, from the point of local cultural sensitivities view;
(v) Personal responsibility for the performance duties;
(vi) Accountability of during the GRM consideration and applications by the PIU.

Complaints and applications filed in accordance with the established procedure are subject to a mandatory review, refusal to admit is not allowed. Complaints and applications of citizens, without indication of the name and postal address, to which the reply should be sent, are considered anonymous and are not subjected to revision.
The GRM does not hinder the right of citizens to applying into the Judiciary authorities. Citizens have the right to apply to the court, or other state bodies for the resolution of emerging issues related to the violation of their rights, emerged under the Project.
For the GRM implementation, the PIU and WUA created a register of complaints and statements from the population. Moreover, anyone can apply to the PIU in an online format at:
https://mail.rambler.ru/m/redirect?url=http%3A//apnip.water.kg/%25D0%25BE%25D0%25B1%25D1%2580%25D0%25B0%25D1%2589%25D0%25B5%25D0%25BD%25D0%25B8%25D1%258F-%25D0%25B8-%25D0%25B6%25D0%25B0%25D0%25BB%25D0%25BE%25D0%25B1%25D1%258B/&hash=8ef50d487d10168e5d891f2d9dd443cd

10.2.1. General GRM process

- In the process of the assets assessment, PAP will be introduced to the information concerning filing and reviewing procedure.
- The first step in the process of handling complaints will be a personal verbal appeal to the Project representative, AO's authority, or by phone (the mobile phone number will be provided on the information board of AO's office, and also posted in ads in places frequented by the population). If the problem cannot be resolved within 5 days, consideration of the complaint will be done at the next level.
- An aggrieved person can file a complaint on the issue related to the process of resettlement or compensation, in written from, to the PIU APNIP Director. A complaint must be signed and dated by an aggrieved party. The APNIP social affairs consultant will maintain a direct link with the PAP. The PIU will determine the validity of a complaint and notify an aggrieved person that he/she will be assisted. The answer will be provided within 14 working days, during which meetings and discussions will be held with an aggrieved person.
- If a complaint concerns an asset assessment at the expense of the Project, a secondary or even a third assessment of an asset will be carried forward, until it is accepted by both parties. The follow-up assessments can also be carried forward by and independent appraiser(s) at the expense of an aggrieved party. The PIU will assist to an aggrieved party at all stages to resolve a complaint and ensure that a complaint is treated the best-of-breed.
- If, after receiving a response from the PIU, an aggrieved party remains unsatisfied, then a complaint is considered in the working group of the Project under AO, which will be

established by the head of AO's resolution, from the members of the Local AO deputies, WUAs representatives, local dignitaries and the PIU specialists.

- In case of an objection, regarding to the working group decision, which is provided within 30 working days, the PAP may appeal to the court.

10.2.2. A registered complaint management

A local representative of the Project should ensure a weekly transfer of received complaints from the PAP to the PIU, as well as the first instance consideration result(s). The local authorities should work with complaints in accordance with the established order and should file the complaints and proposals in the processing registry. The PIU upon receipt of an information, the social consultant should ensure that each complaint has an individual identification number and a progress report in reviewing each complaint reflected in the FRP, which identifies a person(s) responsible for each individual complaint and recording the dates of the following events:

• the date of filing a complaint;
• the date of entering a Complaint(s) Registry in the Project database;
• the date when the information on the proposed solution measure(s) was sent to an aggrieved party (if applicable);
• the response date to an aggrieved party.

The general information on complaints received (number, type of complaint), progress in resolving it and problems encountered, should be included in the Project's periodic reporting submitted to the World Bank.

Annex 1. The minutes of Public hearings

The Minutes of public hearings in WUA Obi- Khaet of Bazar-Korgon rayon of Djalal-Abad oblast, on environmental and social issues, as part of the World Bank project "Agricultural Productivity and Nutrition Improvement"

Village Bazar-Korgon **October 9, 2018.**

Attendees:

Azhimatov A.B. – APNIP PIU engineering coordinator for south;
Kadirov M. – chairman of Council of WUA Obi-Khaet;
Rezhapov A.U. - WUA Obi-Khaet Director;
Neronova T.I. – the PIU APNIP National environmental protection consultant;
Orozalieva S.M – the PIU APNIP Consultant on social issues;
Turdumatov A. – chief specialist of Bazar-Korgon WUA RSU.

The Public hearing was attended by 45 people: water users, representatives peasant farms, farmers, WUA members, among them 18 female. The list of attendees is applied below.

The Chairperson – Kadirov M. WUA Council chairman.

Azhimatov A.B.– APNIP PIU engineering coordinator for south spoke about the Project "Agricultural Productivity and Nutrition Improvement\APNIP" and on-farm rehabilitation works to be executed under it.

Neronova T.I. - the PIU APNIP National environmental protection consultant has explained about the APNIP project and its components, as well as Kyrgyz Republic's environmental legislation requirements and the World Bank's policy on environmental protection under the Project.

The task of environmental assessment is to identify the Project's significant impact(s) on the environment (positive and negative), identify appropriate preventive measures and mitigation measures addressed to prevent, minimize or eliminate any expected irreversible impact(s). The experience of previous projects has demonstrated the positive impact of a project on the environment. In fact, many positive impacts of projects have been identified during the environmental assessment. Namely, this Project is aimed at reducing water losses in irrigation schemes, improving water management, improving agricultural productivity and improving soil fertility.

At the same time, while carrying out civil works on reconstruction of irrigation networks, there may be some potentially negative impacts on environmental protection conditions in projected areas that need attention, to accept preventive actions and appropriate mitigation measures during planning, development, construction, operation and maintenance.

- No asbestos-containing materials will be used for the planned rehab of irrigation networks, noting that previously prefabricated asbestos-cement pipe crossings were used. But even in the past years they were disassembled and replaced with structures of more inert materials. Thus, no problems with asbestos-containing materials are expected.
- Potentially negative impacts are relatively small, but positive economic, social and environmental benefits far outweigh them under the environmental assessment. Consideration of these impacts is given below.

The main impact(s) that can be seen as a result of the civil works:

1) Soil pollution on construction site
2) Groundwater pollution on construction site

3) Deterioration of the landscape, destruction of the natural habitat of the animal world, changing the local drainage network
4) Air pollution and impact on workers/population during traffic and heavy equipment operation

The site specific EMP is composed for each of the rehab subproject to prevent or mitigate the negative impact(s) of the civil works. It includes a mitigation and monitoring plan, both for the construction phase, and for the O&M phase.

All the risks of the construction phase are easily controlled and eliminated. They can be minimized by properly designing mitigation measures and controlling the Contractor, while carrying out the works.

Among the risks of O&M phase, the risk of degradation of the landscape and destruction of the animal world's natural habitat, while cleaning unlined canals and drains is obvious and easily controlled. The risks of surface and groundwater pollution by agrochemicals, due to excessive use of pesticides and mineral fertilizers, soil erosion, associated with existing practices of agricultural production, groundwater table rising in the shallow zone due to excessive irrigation and, as a consequence, salinization of soils, require a special monitoring. The need for mitigating measures at the stage of O&M is determined precisely during the process of environmental monitoring.

Orozalieva S.M. - the PIU APNIP Public affairs and social issues Consultant, delivered the message concerning social aspects under the Project to the participants of the public hearing. In particular, she spoke in detail about the World Bank policy 4.12 "Forced Resettlement", the Policy is aimed at eliminating the risks associated with involuntary resettlement, and by addressing the issues of reducing risks to a minimum. She also stressed that WUA members and councils that are the subject to rehabilitation, should be aware of their options and rights related to resettlement, and take part in consultations concerning possible options for compensation, and would have had the right to choose and be provided with technically and economically feasible alternatives for resettlement. She also noted that during the resettlement, attention should be paid on socially vulnerable population, such as ethnic minorities, female-headed households, the elderly, etc., with appropriate assistance to improve their living standards. In the interest of resettled persons, necessary and accessible mechanisms should be established to review and resolve their complaints either at the spot, or in the PIU office. Each WUA, included in the rehab program, should maintain a register of complaints and currently almost all WUAs have such a register. Moreover, all WUAs have a complaint form and GRM. The ecological and social issues were also discussed, the main goals of which are constant surveillance on public opinion, awareness raising campaign to deliver a message to the stakeholders, while under rehab and modernization of irrigation network. In addition, the PIU site (www.apnip.water.gov.kg) has a separate section on appeals and complaints, where anyone can send their appeal or complaint about the Project's activities. For effective monitoring and management of complaints of the population and GRM, the PIU maintains a database of appeals and complaints.

Questions:

Orunbayev A. – Construction waste and garbage, where will it be taken out after construction?

Neronova T.I. – Construction waste and garbage will be removed by the contractor to places agreed upon with local authorities. Construction waste can be reused for recycling.

Kholikulov M.- Who is in charge for construction works monitoring?

Neronova T. – the repair will be performed by WUA members. The control will be executed by the DWRLI PIU, the State Inspection of Technical and Environmental Control.

Rezhapov A. – whether it is necessary to obtain permission for vegetation clearance if they are in the canal`s right-of-way area?

Neronova T.I. – When examining rehabilitated areas, the presence of vegetation was established. WUA needs to prepare a letter to the Jalal-Abad oblast department of environmental protection, and they will coordinate clearance.

Shergoziyeva Z. – May noise and dust affect people during the works?

Neronova T.I. – Dust impact can be exerted by driving vehicles through settlements. The EMP provides for passage through settlements at low speed, which contributes to less dust and noise. The EMP provides that the Contractor will conduct works only during the daytime.
Davranova F. – What do we need the GRM for?
Orozalieva S.: the GRM objective is to provide feedback to project stakeholders on issues relating to the project, for example, when non-compliance with environmental protection measures during civil works. Any citizen whose interests may be infringed upon during the implementation of the project can make a complaint.
Mamazhanov Sh. - Who can apply with complaint?
Orozalieva S.- Anyone member of the WUA and local inhabitant is eligible to apply with complaint. A complaint could the addressed either in verbal or written form, while under the Project activities.

At the end of the meeting all attendees have supported implementation of the Project.
Kadirov M. on behalf of all attendees expressed his acknowledgment for support and information introduced.

Chairperson **M. Kadirov**

APNIP Regional coordinator for south **A. Azhimatov**

Chief specialist of Bazar-Korgon WUA RSU **A. Turdumatov**

PIU APNIP National environmental protection consultant **Neronova T.I.**

PIU APNIP Consultant on social issues **Orozalieva S.M.**

Список участников общественного слушания по экологическим и социальным вопросам в АВП Оби-Хаёт Базар-Коргонского района Джалал-Абадской области

№	ФИО	Номер телефона	Роспись
1.	Турдуматов А	0777 60 68 51	
2.	Эргашева Н		
3.	Якубжанова М		
4.	Абдуллобаров У	0551 37 90 91	
5.	Нурходжаев В.С	0550571011	
6.	Хайдаров Н		
7.	Шерхозиева З	0551 19 64 04	
8.	Рахматилла к Д	-	
9.	Ханалиева М.	0552 60 48 08	
10.	Каримжанова М	0708.208 58957	
11.	Сопиева М	0559,38,99,09	
12.	Рахмонов М	0556 700 432	
13.	Комбаров К	055200 2445	
14.	Ташибоев Э	0777502805	
15.	Худайбердиев Б	0550615101	
16.	Ханапиев Н	0552888182	
17.	Нурходжаев Д	0777807089	
18.	Эсамбердиев	0553494929	
19.	Тухтамурадов	05798382	
20.	Назаралиев У	0554674044	
21.	Холмбоева Н	—	
22.	Мамашева Г	—	
23.	Бувирахимов М	— — —	
24.	Нуранова Ф.	0559183730	
25.	Кемиукулов	0553195001	
26.	Мирзаисанова А	0557 399 499	
27.	Якубжанова Д	0709756615	
28.	Урмбоева С	0552-22-24-64	
29.	Орозбоев Л	0777577189	
30.	Нурхопоаев Б		
31.	Сатиболдиев	0550650085	
32.	Абдыразаков К.	0777 202136	
33.	Репопов Р	0704 444537	
34.	Абдразаков Р	0	
35.	Холбоева О	0551 10 28 61	
36.	Кабилжанова М	0558009641	
37.	Мамажанов Ш.	0559502294	
38.	Юлгиев Э	0555215905	
39.	Кадиров М	0554 347705	
40.	Абдурахимов В	0550 24 00 49	
41.	Хомидуллов М	0552 380638	

42.	Турсунов Ч	0553593001	
43.	[illegible] М.	0772335751	
44.	Казакиева С.	0707488288	
45.	Ашималатов А.	0772 512664	
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11. Images

Image 1. Village Bazar-Korgon, the public hearing, October 2018.

Image 2. Village Bazar-Korgon, the public hearing, October 2018.

Image 3. Off-farm canal “Levaya Vetka”, May 2018.

Image 4. Canal ПК/РК – 133, May 2018.

Image 5. Canal ПК -139, May 2018.

Image 6. Canal “Jety-Koshkon”, May 2018.