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 WUA "Tasma-Karanar", Ak-Suu rayon, Issyk-Kul oblast

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May 2018

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

1. Introduction

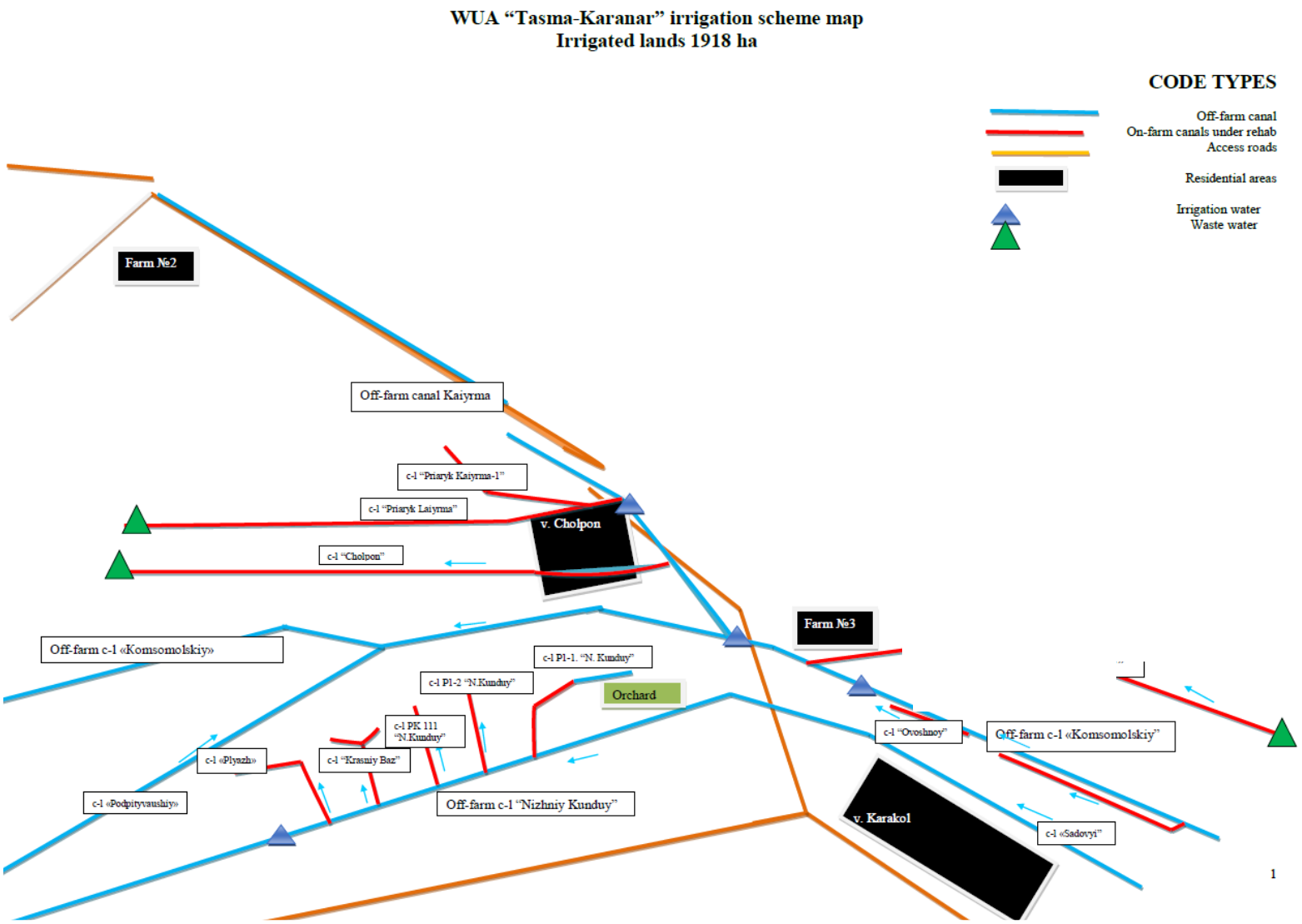
The Agricultural Productivity and Nutrition Improvement Project (APNIP) for the Kyrgyz Republic is being implemented with the support of the International Development Association (IDA) and financed by the Trust Fund, provided by the Global Agricultural and Food Security Program.

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 the IDA environmental safeguards.

The objectives of environmental assessment (EA) is to identify the significant impact 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 the WUA "Tasma-Karanar" rehabilitation has been developed, taking into account the specifics of this particular subproject.



Picture 1. Layout map of WUA "Tasma-Karanar" irrigation network, Ak-Suu rayon, Issyk-Kul oblast.

2. Description of the subproject under rehabilitation

The WUA "Tasma-Karanar" is located within the Karakol AA territory, Ak-Suu rayon, Issyk-Kul oblast. The territory is located in the eastern part of the Issyk-Kul basin, 30 km off the regional center of the city Karakol and 15 km off the rayon's center Teploklyuchenka. The nearest railway station "Balykchy" - 250 km, distance to Bishkek: 430 km.
The WUA's command area is 1918 ha. The length of on-farm irrigation network is 30.8 km, of which 4 km concrete lined, 7.8 km –earth-bed.
The WUA includes 435 individual farmers. The water supply carried out by the farmers' requests, the current ISF is KGS/ha (approved by the WUAs Assembly members). The main cultivated crops are winter and spring wheat, burley, vegetables, perennial grass, potato and orchards.
The NSR and dams are not within the WUA "Tasma-Karanar" territory. The territory is not under threat of flooding

2.1. Salient features of the rehab subproject

On-farm canals. The WUA's on-farm irrigation network length is 31.8 km, 4 km of which are concrete lined, but the most part, 27.8 km, is in earthbed. The command area is 1918 ha. With the start of agrarian reform in early 1990s, when villagers obtained the right for a land plot, and the on-farm network remained without the previous owner for a whole decade, most of the concrete lined canals were destroyed, canals' capacity decreased substantially, water filtration losses increased, water allocation and metering sufficiently aggravated. HPs, water outlets, cross regulators, bridge-crossings are either destroyed, or in unsatisfactory condition.
Since year 2003, when WUA "Tasma-Karanar" was established, a gradual progress in the irrigation water management was noted, however, without significant investment, it is impossible to improve the WUA's irrigation system. At the waterusers' request and according to the World Bank selection criteria, the PIU APNIP specialists and the WUA's engineers have conducted a technical survey of the WUA's irrigation network, based on which a deficiency act was composed and preliminary rehab and construction workload volumes were determined.

Off-farm canals network of WUA «Tasma-Karanar" includes three main canals – "Komsomolskiy, Nizhny Kunduy, Kaiyrma". All off-farm canals pass through the WUA's territory and in earthbed. The mechanical cleaning of canals is not required. In order to improve water allocation and water delivery, it is planned to rehabilitate 5 water dividers, to build 17 water outlets, 4 bridge-crossings, to rehabilitate 1 pipe-crossing and 1 HP (11 HPs will be constructed as nomograms at the head of newly build on-farm flumed canals).

2.2. Description of interventions executed within the Project

Within the APNIP framework, the following workload will be executed:
- Rehab and construction of a new flumed canal(s);
- Construction of a new water outlet(s);
- Fully equipping the metal structures on existing HTS;
- Rehab and construction of bridge-crossings and driveways through canals.

2.2.1. Off-farm canal «Nizhniy Kunduy»

The total length of the canal is 18,1 km, of which 0.81 km is lined with concrete slabs P-3 (П-3) and remaining part is in the earth-bed, the canal's water flow is 1.3 m³/s. The WUA's command area under the canal is 312 ha.
Within the Project the following workload is included:
- Construction of new 18 water outlets and rehab of remaining outlets;

- Rehab 2 water dividers;
- Construction of 3 bridge-crossings;
- Rehab 1 pipe-crossing;
- Construction of 1 HP.

2.2.2. Off-farm canal «Komsomolskiy».

The total length of the canal within the WUA's territory is 11 km and in earthbed. The command area under the canal is 1800 ha. The canal's water flow is 2.0 m³/s.
Within the Project the following workload is included:

- Construction of 4 water outlets;
- Construction of 1 bridge-crossing.

2.2.3. Off-farm canal «Kaiyrma».

The canal, the total length is 4.5 km and in earthbed, has its source from off-farm canal «Komsomolskiy». The command area under the canal is 840 ha. Water flow is 1.5 m³/s.
Within the Project the following workload is included:

- Partial rehab of 2 water outlets;
- Construction of 2 bridge-crossings.

2.2.4. Off-farm canal «Cascade».

The canal is a separate section of the off-farm canal "Komsomolskiy". The canal is in rubble concrete lining and the total length is 0.85 km, the water flow is 3.0 m³/s.
Within the Project the following workload is included:

- The partial repair workload planned.

2.2.5. ON-farm canal «Krasnyi baz»

The total length of the canal is 1.5 km and in earthbed, the command area under the canal is 150 ha, the water flow is 0.3 m³/s.
Within the Project the following workload is included:

- Construction of the flumed canal with length 0.81 km;
- Construction of 6 reinforced precast concrete water outlets;
- Construction of 2 pipe-crossings;
- Construction of tail-reach structure on the flumed canal.

2.2.6. ON-farm canal «Nizhniy Kunduy P-1-1».

The total length of the canal is 3.0 km and in earthbed, the command area is 180 ha, the water flow is 0.3 m³/s. the Общая протяженность канала составляет 3,0 км.
Within the Project the following workload is included:

- Construction of the flumed canal at the length of 0,635 km;
- Construction of 3 water outlets of prefabricated reinforced concrete;
- Construction of tail-reach structure;
- Construction of 1 pipe-crossing.

2.2.7. On-farm canal «Nizhniy Kunduy P-1-2».

The total length of the canal is 3.0 km and in earthbed, the command area is 180 ha, the water flow is 0.3 m³/s.
Within the Project the following workload is included:

- Construction of the flumed canal at the length 1 km;
- Construction of 4 water outlets prefabricated reinforced concrete;
- Construction of 1 pipe-crossing.

2.2.8. On-farm canal «Plyazh»

The total length of the canal is 1.5 km and in earthbed, the command area under the canal is 180 ha, the water flow is 0.3 m³/s.

Within the Project the following workload is included:

- Construction of the flumed canal with length 1,1 km;
- Construction of 5 double-sided water outlets of prefabricated reinforced concrete;
- Construction of 1 tail-reach structure;
- Construction of 1 pipe-crossing.

2.2.9. On-farm canal «Nizhniy Kunduy on HM 111»

The total length of the canal is 1.5 km and in earthbed, the command area under the canal is 60 ha, the water flow is 0.2 m³/s.

Within the Project the following workload is included:

- Construction of the flumed canal at the length of 1,4 km;
- Construction of 7 double-sided water outlets of reinforced prefabricated concrete;
- Construction of 2 pipe-crossings;
- Construction of 1 tail-reach structure.

2.2.10. ON-farm canal «Podpityvayushiy».

The total length of the canal is 2.5 km and in earthbed and carrying out the feeding canal functions, for the off-farm canal "Komsomolskiy", from the pumping station "Tepke".

Within the Project the following workload is included:

- Construction of 3 water outlets.

2.2.11. On-farm «P-2-3 from canal Komsomolskiy».

The total length is 1,5 km, command area 80 ha, water flow 0,3 м³/s and is in earthbed.

Within the Project the following workload is included:

- Construction of the flumed canal at the length of 0,8 km;
- Construction of 4 water outlets of reinforced prefabricated concrete;
- Construction of tail-reach structure.

2.2.12. On-farm canal «Cholpon»

The total length is 4,5 km, half of which passes through the residential area, command area 160 ha, water flow 0,3 м³/s and is in earthbed.

Within the Project the following workload is included:

- Construction of the flumed canal at the length of 1.62 км;
- Construction of reinforced prefabricated concrete canal at the length of 1.52 км;
- Construction of 4 one-sided water outlets on rubble-concrete lined canal:
- Construction of 4 double-sided water outlets on rubble-concrete lined canal;
- Construction of 8 water outlets of reinforced prefabricated concrete;
- Construction of 5 pipe-crossings;
- Construction of 1 tail-reach structure.

2.2.13. ON-farm canal «Priaryk Kaiyrma»

The total length is 3.9 km and in earthbed, command area 95 ha, water flow 0,3 м³/s.

Within the Project the following workload is included:

- Construction of the flumed canal at the length of 2,2 км;
- Construction of 1 water outlet at the HM0+26;
- Construction of 7 water outlets of reinforced prefabricated concrete;
- Construction of 2 pipe-crossings;
- Construction of 1 tail-reach structure.

2.2.14. On-farm canal «Priaryk Kaiyrma-1»
The total length is 1.0 km and in earthbed, command area 50 ha, water flow 0,2 м³/s.
Within the Project the following workload is included:

- Construction of the flumed canal at the length of 0,7 км;
- Construction of 3 water outlets of reinforced prefabricated concrete;
- Construction of 1 pipe-crossing.

2.2.14. On-farm canal «Ferma № 3».
The total length is 1.0 km and in earthbed, command area 34 ha and household gardens 15 ha, water flow 0,2 м³/s.
Within the Project the following workload is included:

- Construction of the flumed canal at the length of 1.0 км;
- Construction of 3 water outlets of reinforced prefabricated concrete;
- Construction of 2 pipe-crossings;
- Construction of 1 tail-reach structure.

2.1.16. On-farm canal «Pravyi Kaiyrma»
The total length is 1.0 km and in earthbed, command area 40 ha, water flow 0,2 м³/s.
Within the Project the following workload is included:

- Construction of 2 water outlets of reinforced refabricated concrete;
- Construction of 1 pipe-crossing.

2.1.17. On-farm canal «Srende-Maevskiy»
The total length is 2.45 km and in earthbed, command area 117 ha, water flow 0,3 м³/s.
Within the Project the following workload is included:

- Construction of 6 water outlets.

2.1.18. On-farm canal «Sadovyi»
The total length is 1.5 km and in earthbed, command area 44 ha, water flow 0,2 м³/s.
Within the Project the following workload is included:

- Construction of the flumed canal at the length of 2.45 км;
- Construction of 9 water outlets of prefabricated reinforced concrete;
- Construction of 1 pipe-crossing;
- Construction of 1 tail-reach structure.

2.1.19. On-farm canal «Ovoshnoy»
The total length is 0.6 km and in earthbed, command area 24 ha, water flow 0,1 м³/s.
Within the Project the following workload is included:

- Construction of 2 water outlets.

Rehab for reservoirs, dams and spillovers is not planned. That is why the Policy on irrigation dams and reservoirs (OP 4.37) is not applicable.

Construction and rehab workload deadlines: 2019-2020.

3. Description of environmental parameters at the site

3.1. Climate

The salient climatic features of the WUA are monitored and controlled by the "Karakol" meteostation. The average and annual air T° and volumes of precipitation (long-time average data) introduced in the Table 1 below.

Table 1

month	I	II	III	IY	Y	YI	YII	YIII	IX	X	XI	XII	annum
air T° C	-7,1	-5,7	-1,7	3,1	11,1	15,1	16,7	16,6	12,5	6	0,3	-3,4	4,4
precipitation, mm	20	9	10	26	48	45	52	47	44	34	21	9	365

The zone's climate is moderately continental, with a long cool summer and a short moderately cold mild winter with frequent thaws. The spring is warm, short, with a rapid increase in temperature and a frequent cold spells. The autumn is dry, with early frosts, followed by an extensive and established warm weather. The absolute minimum temperature is observed in January 28°C, the absolute maximum +33°C in July and August.

The average date of the last and first cold spell of the spring-summer period is May 13, and the average first cold spell date of the autumn-winter period is mid-September, the frost-free duration period is 114-137 days. Transformation of average daily temperatures passing 0°C is observed in March 12 above -0°-, and starting from October 21 below – 0°.
The western direction winds are prevailing and often of a hurricane strength and the speed of which reaches 20-25 m/s. This landscape relates to the unstable moisture zone, the relative winter air humidity is about 70-80%, the summer - 50-80%. Precipitation is 365 - 400 mm and the greatest number of which is observed in the spring-summer period May, June, July - 62-65%. The thickness of stable snow cover is 35-40 cm and sometimes reaches 50 cm, and is remains for 100-120 days. The site specific climatic conditions are, in general, favorable for the cultivation of fruits and indicative for the Ak-Suu rayon's zones, and only under favorable irrigation conditions.

3.2. Landscape

The irrigated lands are located on the foothills of the upper terrace of the r. Djergalan. The mid-mountain landscape corresponds to a low-mountainous relief; in the southern part it gradually merges with a flat lacustrine plain. The surface slope from 7-9° to 0.5-1° when approaching to the lake. One of the extremely negative factor contributing to water erosion is presence of terrain slopes. The landscape is prone to water erosion when the agricrops irrigation requirements and norms are subject of noncompliance. Therefore, in order to prevent erosion processes, caused by excessive irrigation of agricultural lands, it is necessary to use agro-ameliorative interventions addressed to preventing water erosion of soils. For these purposes the Project is ensuring tail-reach structures/facilities. The EMP is proposing these types of interventions for a structure/facility operation period. The proposed construction works will not affect the lands with erosion processes.

3.3. Hydrology

The r. Jyrgalan is feeding the WUA's "Tasma Karanar" on-farm and off-farm network. The river located in the eastern part of the Issyk-Kul depression and flows into the Issyk-Kul lake, belongs to the rivers of snow-glacier origin, high water occurs in the summer season. The river originates from the northern slope of the Teskey Ala-Too ridge and in the upper runoff directed to the north, then turns to the west and flows into the lake. The largest tributaries of r. Jyrgalan: Turgen-Ak-Suu, Ak-Suu. The area of river basin Jyrgalan is 2,060 m³, the average annual water flow is 22.5

m^3/s, the river length within the WUA is - 1,0 km, the distance to the river is 2 km. The area is free of polluting entities discharging waste waters and hazardous chemicals into the source of irrigation.

3.4. Soils

The soils at the site are mainly represented by alluvial piedmont plain, with gray-brown, low-strength, medium and heavy soils, rarely non-rocky loamy and sandy soils, less often of medium loamy and sandy composition. The gray-brown soils of the site have a light mechanical composition and poor of silty and dusty particles (from 15-25 to 35-50% of the particles <0.01 mm), resulted on an increased filtration and low water retention capacity.

3.5. Vegetation cover

The vegetation cover: trees, grass, herbaceous plants. The soil-vegetation layer (SVL) will be disturbed, since construction workloads propose embedding of new canals. In relation to this, it is necessary to designate a site specific SVL stockpiling or transfer it to the local authorities and residents for follow-up application in agricultural and landscape improvement activities. Alongside of the canals, it is necessary to execute tree felling and shrubbery uprooting that hamper course of workloads, and are in the alienation zone of water facilities/structures. According to the requirements of the Water Code of the Kyrgyz Republic, Art. 80 p.3, while executing repair and rehabilitation works, the shrubbery cutting and forest felling within the alienation zones of water management structures and canals, as well as sanitary cutting and deadwood cutting, do not require permission from the specially authorized state agencies/bodies. Prior to commencement of works, the contractor will inform the environmental protection agency of forthcoming tree and shrubbery uprooting to be conducted. If construction workloads to-be-conducted on the sections that are not within alienation water management zones, then tree and shrubbery uprooting is the subject to approval with the environmental protection agencies/bodies. The workloads will not be executed at the agricultural lands, as all construction and rehab sites are located beyond their boundaries.

4. Description of procedures related to regular operation workloads

4.1. 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 capacity, 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.

4.2. 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.

4.3. 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 a 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.

4.4. 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 carried out 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.

4.5. 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.

5. 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,

5.1. 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.

5.2. 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 carried 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.

5.3. 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 construction of a new 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	1) Damage and trees felling and shrubbery cutting; 2) SVL degradation	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 delivery, which increases the volumes of waste water	surface water pollution with agrochemicals, as a result of excessive application of pesticides and mineral fertilizers	indirect	Mid-term	delayed	moderate	moderate	Reversible	Average
increase in irrigation water volumes supply that leads to water speed increase	soil erosion related to existing agricultural production practices, as well as the WUA's landscape slopes ratio	indirect	long-term	delayed	moderate	moderate	Reversible	Low

6. Environmental management and monitoring plan (EMP)

The EMP is composed for each of the HTS under rehab to prevent or mitigate the negative impact of the (re)construction. It includes a mitigation and monitoring plan, both for the construction phase, and for the operation and management phase.

All the construction phase risks are easily monitored and eliminated. They can be minimized by properly designing mitigation measures and monitoring the Contractor, while executing workloads. During the (re)construction works, trees felling and shrubbery cutting in a canal's alienation zone will be carried out in accordance with the requirements of the Water Code (Article 80, para. 3.) and in agreement with the specially authorized environmental protection agency/body. Excavated SVL will be disturbed, since construction workloads propose embedding of new canals. In relation to this, it is necessary to designate a site specific SVL stockpiling or transfer it to the local authorities and residents for follow-up application in agricultural and landscape improvement activities. 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 groundwater table, due to excessive irrigation and, as a consequence, soil salinization, will be executed by an authorized laboratory for 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 (re)construction works 675 684	PIU/Contractor	contractor	1) A Contractor bears responsibility to execute environmental mitigation interventions; 2) A construction site inspections executed by PIU; 3) StateAEPF Inspectorate
	soil after embedding a canal	1) excavated soil transported to the locations designated by the local authorities; 2) executing rehab and planning interventions	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
	1) trees and shrubbery 2) excavating SVL	coordinating with the specially authorized environmental protection body on trees and shrubbery felling/cutting located beyond the alienation zones of a canal; 2) SVL transportation to the WUA members of local authorities	n/a	Part of the (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	n/a	Part of the (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

		transportation routes to minimize dust emissions; 3) Moisturizing the road surface while driving through the residential area territories					
	noise impact within labor area	machinery and equipment operation	n/a	Part of the (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 (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	- training(s) on water use and soil management. - awareness raising campaign;					RSU on-site check

		- 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).	n/a	n/a	AAS/AISP	WUA members	
	climate change impact	- climate change mitigation measures training; - compliance to irrigation norms and regimes	n/a	n/a	AAS/AISP	WUA members	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	on off-farm canal Kaiyrma, below canal Priaryk-Kaiyrma and below off-farm canal Komsomolsky; on off-farm canal Kunduy; on tailreach of canals	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	insignificant	RSU	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	Insignificant	PIU/Contractor	PIU/Contractor
	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	insignificant	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	Sample for laboratory analysis	During construction	Civil works impact assessment	0	100 USD	Contractor	Accredited laboratory Water sampling and analysis.

		rehabilitation subProject							Introduction of results to PIU
operation	Salinity, concentration of hydrogen ions, turbidity	at the head and tailreach of a canal's irrigation scheme	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

7. 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/cm³, 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:

- 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.

7.1. 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.

7.2. Disposal of asbestos containing wastes

- The asbestos-containing wastes must be disposed in solid waste dumps, or non-recyclable industrial solid waste.

8. 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).
-

9. Awareness rising campaign, consultations and public attendance

9.1. Public consultations

In accordance with Operational Procedures OP4.01.[1] The WB has a 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 WUA "Tasma Karanar" public hearings held in Karakol AA Ak-Suu rayon, Issyk-Kul oblast. 40 people attended the public hearing: WUAs representatives, local authorities, farmers, WUA RSU, design-engineers, the PIU. The agenda of public hearings included information concerning the Project's technical solutions and environmental impact(s), as well as the interventions that would be taken to prevent and mitigate the impact. Participants asked a number of questions concerning the

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

interventions that stipulated in the EMP. The minutes of the public hearings and the list of participants, and photos are attached.

9.2. 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

9.2.1. 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.

9.2.2. 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 a n 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

Протокол общественных слушаний по охране окружающей среды в АВП «Тасма Каранар» Ак-Суйкого района Иссык-Кульской области в рамках проекта Всемирного Банка ««Улучшения сельскохозяйственной производительности и питания»

а/о Каракольский **15 мая 2018г.**

Присутствовали:
Сыдыков АА.А. глава а,о Каракольский, Председатель Совета АВП
Неронова Т.И. – консультант по охране окружающей среды ОРП УСПП;
Колупаев В. – инженер-проектировщик ОРП по Иссык-Кульской области;
Казакбав Т.Ш – начальник регионального отдела поддержки водопользователей Иссык-Кульской области;
Бешебаева Н. – координатор Ак-Суйского РОП.

В общественных слушаниях приняли участие 40 человек: водопользователи, представители крестьянских хозяйств, фермеры, члены АВП. Список участников общественных слушаний прилагается.

Председатель собрания Сыдыков А.– глава а/о, Председатель Совета АВП.
Собрание открыл глава а/о Каракольский Сыдыков А.А.

Казакбаев Т.Ш – начальник регионального отдела поддержки водопользователей Иссык-Кульской области выступил с информацией о проекте, в которой рассказал о предполагаемых работах по реабилитации внутрихозяйственной сети в рамках проекта «Повышение производительности в сельском хозяйстве и улучшение питания».

Неронова Т.И. - консультант по охране окружающей среды ОРП УСПП рассказала о требованиях природоохранного законодательства Кыргызской Республики и политике Всемирного Банка по охране окружающей среды при реализации проекта.

Задача оценки окружающей среды заключается в том, чтобы выявить существенное воздействие предлагаемого проекта на окружающую среду (позитивное и негативное), определить соответствующие превентивные меры и меры по смягчению воздействия, направленные на предупреждение, минимизацию или устранение любого ожидаемого необратимого воздействия.

Опыт предыдущих проектов показывает положительное воздействие предлагаемого проекта на окружающую среду. В действительности, в ходе оценки окружающей среды выявлено много положительных воздействий проектов. А именно, данный проект направлен на сокращение водопотерь в ирригационных системах, улучшение управления водными ресурсами, повышение сельскохозяйственной производительности и улучшение плодородия почв.

Вместе с тем, при проведении строительных работ по реконструкции оросительных сетей, возможны проявления некоторых потенциально негативных воздействий на условия охраны окружающей среды в проектных площадях, на которые необходимо обратить внимание, принять превентивные действия и соответствующие меры по их смягчению во время планирования, разработки, строительства, эксплуатации и технического обслуживания.

- При выполнении планируемых работ по реабилитации оросительных сетей не будут применяться никакие асбестосодержащие материалы. Отметим, что ранее применялись асбестоцементные трубчатые переезды. Но еще в прошлые годы они были демонтированы и заменены на сооружения из более инертных материалов. Соответственно никаких проблем с асбестосодержащими материалами не ожидается.
- Потенциальные негативные воздействия являются относительно незначительными, а позитивные экономические, социальные и экологические выгоды значительно перевешивают их в оценке окружающей среды. Рассмотрение этих воздействий приводится ниже.

Основное воздействие, которое может быть оказано в результате ведения строительных работ:

1) Загрязнение почв на строительной площадке
2) Загрязнение подземных вод на строительной площадке
3) Ухудшение ландшафта, разрушение естественной среды обитания животного мира, изменение локальной дренажной сети
4) Загрязнение воздуха и воздействие на рабочих/население при движении транспорта и работе тяжелой техники

Для предотвращения или смягчения негативного воздействия строительства для каждого объекта реабилитации составляется ПУОС. Он включает в себя план смягчающих мер и мониторинга, как для фазы строительства, так и для фазы Э и ТО.

Все риски фазы строительства легко контролируются и устраняются. Они могут быть сведены к минимуму при должном проектировании смягчающих мер и контроле над Подрядчиком при выполнении работ.

Из рисков фазы эксплуатации и технического обслуживания (Э и ТО) риск ухудшения ландшафта и разрушения естественной среды обитания животного мира при чистке земляных каналов и дрен является явным и легко контролируемым. Риски загрязнения поверхностных и подземных вод агрохимикатами вследствие избыточного использования пестицидов и минеральных удобрений, эрозии почв, связанной с существующей практикой ведения сельского производства, повышения уровней грунтовых вод в зоне их не глубокого залегания в связи с избыточным орошением и, как следствие, засоления почв, требуют специального мониторинга. Необходимость в смягчающих мерах на стадии Э и ТО определяется именно в процессе экологического мониторинга.

Вопросы:

Сыыкоа А.А. – должно ли айыл окмоту предоставить жилье для подрядчика, который будет вести строительство?

Неронова Т.И. Айыл окмоту не должно предоставлять жилье для подрядчика. Айыл окмоту согласует место размещения лагеря подрядчика. Если у них будет отдельный лагерь и согласовать им место вывоза отходов и складирования ПРС, если такое потребуется в период строительства.

Тюкебаев Д. - Кто будет вести контроль за строительством?

Неронова Т.И. – подрядчик наймет специалиста по охране окружающей среды, надзор будет вести также консультант по ООС ОРПУСПП. Со стороны государства – Госэкотехинспекция.

Шаршеев А. - надо ли получать разрешение на вырубку зеленых насаждений, если они находятся в зоне отчуждения канала?

Неронова Т.И. – При обследовании реабилитируемых участков, было установлено, что есть участки каналов, где присутствует древесно-кустарниковая растительность в зоне отчуждения каналов, подлежащая вырубке. Если такой вопрос возникнет в ходе ведения работ, АВП необходимо подготовить письмо в областное управление охраны окружающей среды, и они согласуют вырубку. Если же будет новое строительство, то необходимо получить разрешение на рубку зеленых насадений.

Бейшебаева Н. - Отдел поддержки АВП Ак-Суйского района – будет ли вестись мониторинг воды в канале?

Неронова Т. – мониторинг будет вести районный отдел поддержки АВП в точках мониторинга, которые будут указаны в ПУОС. Также мониторинг будет вестись постоянно в период эксплуатации: Минерализация, концентрация ионов водорода (pH), мутность воды.

В заключении, все собравшиеся поддержали реализацию данного проекта.

Сыдыков А., председатель совета АВП, от имени всех присутствующих поблагодарил за поддержку и предоставленную информацию.

Председатель **Сыдыков А.**

Консультант по охране окружающей среды **Неронова Т.**

Список участников общественных слушаний

АВП «Тасма Каранар **15 мая 2018г.**

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1.	Сарыбаева Б. А	0779632530	[signature]
2.	Шарипбаев К	0778016626	[signature]
3.	Ошурканов Т.	0708836099	[signature]
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5.	Калмамбетова А	0773154411	[signature]
6.	Исаев Э	0771342121	[signature]
7.	Исанбаев Кубат	0770004296	[signature]
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10.	Султанбеков А	0502060769	[signature]
11.	Токонбаев Д	0559913014	[signature]
12.	Абонов Улан	0703776253	[signature]
13.	Бейшеналиева А	0705 386378	[signature]
14.	Аламбаев К	0773 838 808	[signature]
15.	Кулов Анарбек	0773 364029	[signature]
16.	Асанкадырова М. А.	0700 588 437	[signature]
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18.	Бейшебаева И	[illegible]	[signature]
19.	Казанбаев Т. Ш	0772 282678	[signature]
20.	Комлиев В В	0772 609204	[signature]
21.	Адылбеков Э. А	0777 985 125	[signature]
22.	Сейсенбаев Б.К	0703 256007	[signature]
23.	Алимбаев Б.	0550441143.	[signature]
24.	Умаралиев И	0700101264	[signature]
25.	Кеншиева Т.	0557577012	[signature]
26.	Ордобаева Д.	0554757838	[signature]
27.	Кулчунова С	0709147079	[signature]
28.	Шарисеев А	0500624406	[signature]
29.	Турдумбаев К	0708455452	[signature]
30.	Муфтуев С	0770580347	[signature]

№№ п/п	Фамилия, имя, отчество	Телефон	Подпись
31.	Шарипова М.У.	0773045596	
32.	Алиев Б.Н		
33.	Султанбеков В.	0773601296	
34.	Исупиева ИС	0772106948	
35.	Абдонова А	0702142475	
36.	Байтасова М	0773809567	
37.	Байбекова Ч.Д	0772-79-94-49	
38.	Суюнов Н.Н	0777152454	
39.	Тнолебаев Т	0703 515494	
40.	Суванов Т	0709 496057	
41.			
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Minutes of public hearings in WUA "Tasma-Karanar", Ak-suu rayon, Issyk-Kul Oblast, within the World Bank project "Agricultural Productivity and Nutrition Improvement"

Karakol AA **May 15. 2018**

Attendees:
Sydykov A.A. – head of AO Karakol, Chairperson of WUA Council;
Neronova. T. – National environmental consultant, PIU APNIP;
Kolupaev V. – the PIU design engineer for Issyk-Kul oblast;
Kazakbaev T.S – head of WUA OSU, Issyk-Kul oblast;
Beishebaeva N. – RSU Ak-Suu coordinator.

The public hearing was attended by 40 people; waterusers, representatives from farming entities, WUA members. The list of attendees is applied.

The welcome speech held by the Chairperson WUA Council Sydykov A, head of Karakol.

Kazakpaev T. – head of WUA OSU, Issyk-Kul oblast spoke about the Project and introduced all rehab activities for on-farm network within APNIP.

Neronova T. - National environmental consultant, PIU APNIP has explained about the 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 on the environment (positive and negative), identify appropriate preventive measures and mitigation measures aimed at preventing, minimizing or eliminating any expected irreversible impact(s). The experience of previous projects shows the positive impact of the 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, scaling up 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 undertake preventive actions and appropriate mitigation measures during planning, development, construction, operation and maintenance.

- No asbestos-containing materials will be used for the planned rehabilitation of irrigation networks, noting that previously asbestos-cement pipe crossings were used. But even in the past years they were dismantled and replaced with structures of more inert materials. Thus, no problems with asbestos-containing materials are expected.
- Potentially negative impacts are relatively small and positive economic, social and environmental benefits far outweigh them in 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 rehabilitation subproject to prevent or mitigate the negative impact of the construction 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 operation and maintenance phase (O&M), 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 special monitoring. The need for mitigating measures at the stage of O&M is determined precisely during the process of environmental monitoring.

Questions:

Sydykov A. – Whether AO has to provide an accommodation for the Contractor while executing (re)construction works?

Neronova T. AO is not obliged to provide an accommodation for the Contractor. AO is in charge to designate the Contactor's compound and locate the landfill for types of waste and stockpiling SVL, if needed during (re)construction works.

Tukebaev D. – Who is in charge for controlling construction?

Neronova T. – the Contractor will mobilize the environmental specialist and the PIU OSU APNIP will also be dealing with that issue. The state control executed by the SAEPF.

Sharsheev A. – Whether permission for trees and shrubbery felling needed within a canal's alienation zone?

Neronova T. – While examining the areas under rehab, it was found that there are sections of canals where tree and shrubbery vegetation within the canals' alienation zone that must be removed. If this question arises during the (re)construction, the WUA has to compose the formal letter to the oblast environmental protection department, and they will consider this issue. If there is a new construction, it is necessary to obtain a permit for cutting green plantations.

Beishebaeva H. – WUA RSU, Ak-Suu rayon, – How about water monitoring in the canals?

Neronova T. – the water monitoring will be executed by RSU, at the monitoring points mentioned in the EMP. Also during operation of a canal water quality is also subject to monitoring such as; mineralization, concentration of hydrogen ions (pH), turbidity of water, suspended substances. If there is oil contamination caused by the Subcontractor, then the specified laboratory will be mobilized.

In conclusion, all attendees have supported the implementation of this project.

Sydykov A. – the Chairperson on behalf of all attendees has expressed his gratitude for the support and information provided.

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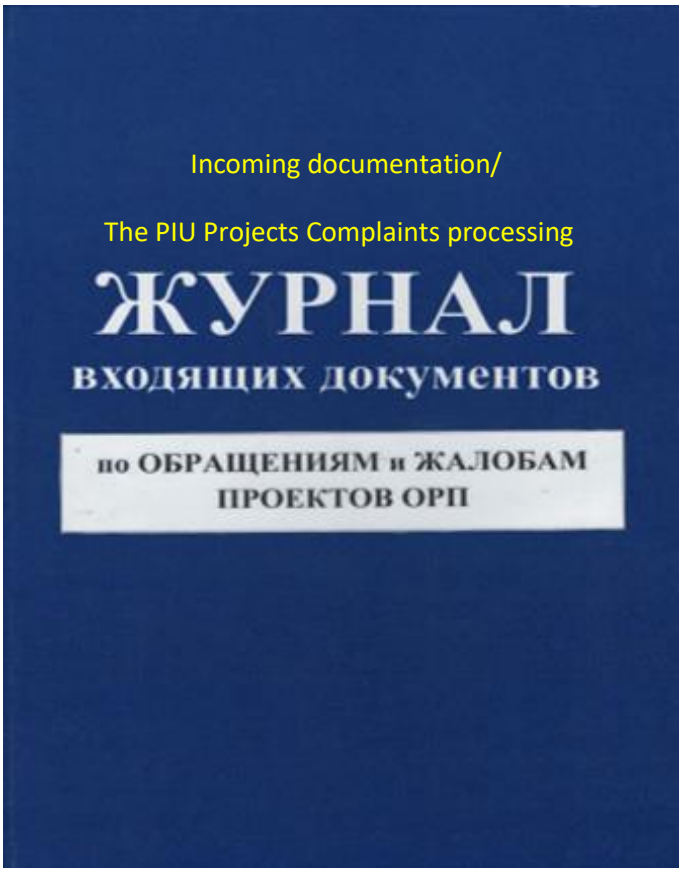
Chairperson **Sydykov A.**

National Environmental protection consultant **Neronova T.**

Annex 2. Complaints processing registry



Annex 3. On-line application for registering a complaint

A complaint application form

ФОРМА ПРЕДОСТАВЛЕНИЯ ЖАЛОБ

Информация о заявителе Applicant's information

ФИО Name : _____

Адрес: Address: _____

_____

_____

Contact info

Контактные данные:

Phone

тел : _____

E-mail

эл. почта: _____

Содержание жалобы/обращения/предложения: Essence of a complaint

Дата подачи жалобы: Complaint date: _____

Дата рассмотрения жалобы: Complaint considered/date

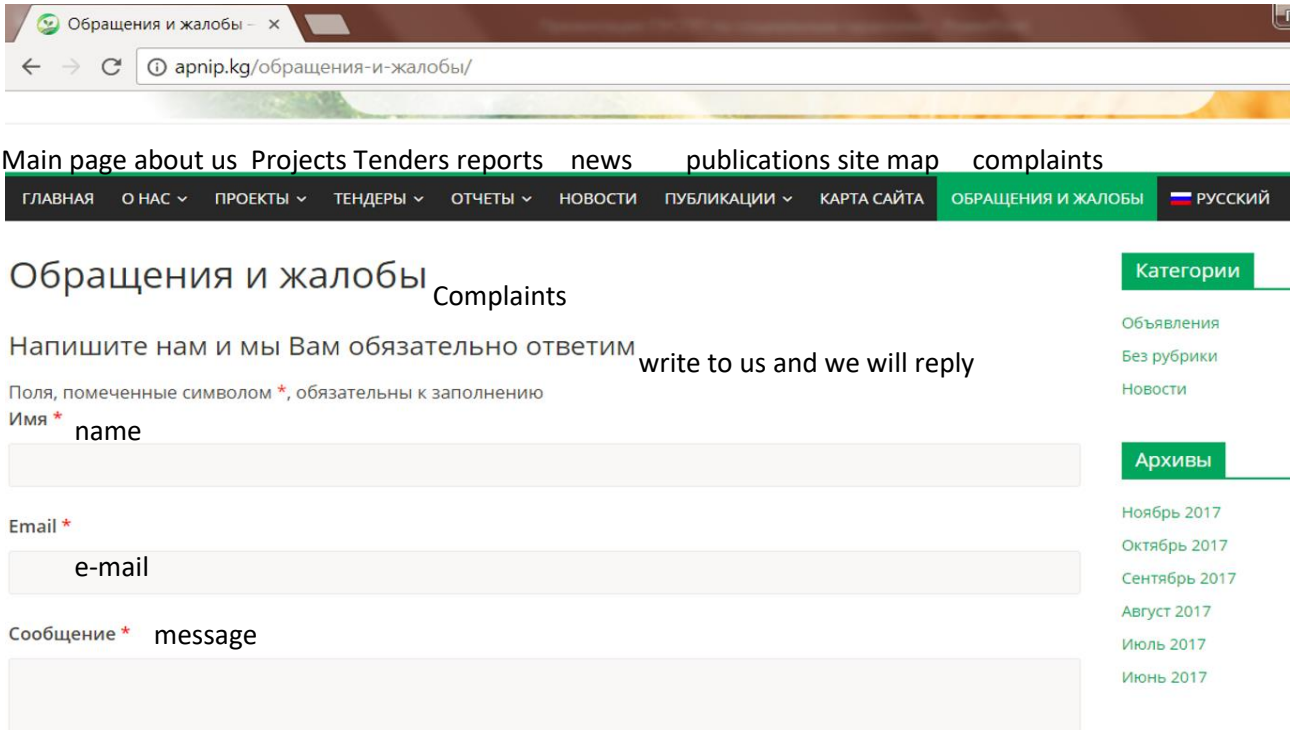
Результат рассмотрения: Consideration(s) result _____

_____

_____

Подпись _____ Дата _____

Signed _____ date


Обращения и жалобы
apnip.kg/обращения-и-жалобы/
Main page about us Projects Tenders reports news publications site map complaints
ГЛАВНАЯ О НАС ПРОЕКТЫ ТЕНДЕРЫ ОТЧЕТЫ НОВОСТИ ПУБЛИКАЦИИ КАРТА САЙТА ОБРАЩЕНИЯ И ЖАЛОБЫ РУССКИЙ
Обращения и жалобы Complaints
Напишите нам и мы Вам обязательно ответим write to us and we will reply
Поля, помеченные символом *, обязательны к заполнению
Имя * name
Email * e-mail
Сообщение * message
Категории
Объявления
Без рубрики
Новости
Архивы
Ноябрь 2017
Октябрь 2017
Сентябрь 2017
Август 2017
Июль 2017
Июнь 2017

10. Images

Picture 1. On-farm canal «Krasny Baz», earthbed, April 5, 2018.

Picture 2. On-farm canal «Pravyi Kaiyrma», April 5, 2018.

Picture 3. On-farm canal «Priaryk Kaiyrma», April 5, 2018.

Picture 4. Public hearings , May 15, 2018.

Picture 5. Public hearings , May 15, 2018.