Ministry of Economic Development and Poverty Reduction of Republic of Uzbekistan

"Rural Infrastructure Development Project”

Environmental and Social Management Framework (ESMF)

Tashkent, Uzbekistan
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Abbreviations and glossary

ARAP	Abbreviated Resettlement Action Plan
CC	Civil Code
DCM	Decree of the Cabinet of Ministries
DDR	Diligence Report
DMS	Detailed Measurement Survey
DPC	Distict Project Committee
DSEI	Draft Statement of the Environmental Impact
EHS	Environment, Health and Safety General Guidelines
EIA	Environmental Impact Assessment
ES	Environmental Specialist
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FS	Feasibility Study
GoU	Government of Uzbekistan
GRM	Grievance Redress Mechanism
H&S	Health and Safety
HH	Household
ICWC	Integrated Commission for Water Coordination
IFIs	International Financial Institutions
IP	Indigenous People
IR	Involuntary Resettlement
LAR	Land Acquisition and Resettlement
LC	Land Code
MCA	Makhalla Citizen's Assembly
MDU	Mahalla Development Unit
MoED	Ministry of Economic Development and Poverty Reduction
MoH	Ministry of Health
NGO	Non-governmental organization
OHS	Occupational and Health and Safety
OP	Operational Policy
PAP	Project Affected Persons
PCB	Polychlorinated Biphenyl
PCR	Physical Cultural Resources
PIU	Project Implementation Unit
POM	Project Operational Manual
PPE	Personal Protective Equipment
QE	Qishloq Engineer
QF	Qishloq Facilitator
RAP	Resettlement Action Plan
RCM	Resolution of the Cabinet Ministers
RIDP	Rural Infrustructure Development Project
RPF	Resettlement Policy Framework
RUZ	Republic of Uzbekistan
Regional	Regional Working Groups
SCEEP	State Committee for Ecology and Environmental Protection
SEC	State Environmental Consequences
SEE	State Environmental Expertise
SEI	Statement of the Environmental Impact
SIA	Social Impact Assessment
SS	Safeguards Specialist
TOR	Terms of Reference
SCS	Single Customer Services engineering companies under regional hokimiyats
USD	United State Dollar
UZB	Uzbek Sum
WB	World Bank
WBG	World Bank Group

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1. EXECUTIVE SUMMARY

1. This Environmental and Social Management Framework (ESMF) is the first revision to the ESMF that was disclosed on September 4, 2019. It has been revised following project restructuring, which was approved in September 2020, to change the name of the project from "Prosperous Villages" to the Rural Infrastrucutre Development Project (RIDP) due to the Government of Uzbekistan's decision to temporarily suspend the Obod Qishloq state program, and to introduce adaptations to the project implementation cycle necessitated by the COVID-19 pandemic to ensure the health and safety of all project stakeholders.

2. The RIDP (the "Project") is an initiative of the GoU that promotes participatory, village-based development to reduce infrastructure and service-delivery gaps. The RIDP will introduce processes to strengthen community participation, with a focus on the inclusion of the poor and vulnerable within communities, in local development planning, decision-making and oversight in 21 lagging districts in five regions. Using a learning-by-doing approach, the RIDP will trial approaches aimed at increasing community participation in project decision-making and oversight, transparency and accountability in project implementation, and the quality and sustainability of subproject investments. To increase participation and community-led decision-making and oversight, a key design innovation introduced under the RIDP is the provision of facilitation support to participating district administrations and qishloqs in the form of trained qishloq facilitation teams. Given this context, the GOU requested the World Bank to prepare RIDP to be supported by the latter with a budget of US$ 100 million. As the Project's preparatory efforts gained ground, AIIB joined as a co-financier with US$ 82 million. The RIDP's development objectives are (i) to improve the quality of basic infrastructure and (ii) to strengthen participatory local governance processes in targeted rural villages in the following Areas- Fergana[1], Andijan, Namangan, Sirdarya[2] and Jizzakh[3] regions.

3. **Component 1: Demand-driven investments in basic infrastructure and services and local governance capacity support** (*US$175.7 million: US$96.2 million IDA, US$82 million AIIB*). This component will finance local-level, climate-resilient subproject investments in social infrastructure and services that communities plan and prioritize. This component will also provide technical assistance and facilitation support to hokimiyats and Mahalla Citizens Assemblies (MCAs) to engage communities in inclusive, transparent processes to plan, select, implement, and maintain investments as defined in the POM.

4. **Subcomponent 1a: Subgrants for demand-driven investments in basic infrastructure and services** ***(****US$164 million: US$82 million IDA, US$82 million AIIB).* This subcomponent will finance subproject investments identified by MCAs in eligible qishloqs through the participatory Project implementation cycle as defined in subcomponent 1b and detailed in the POM, subject to a negative list that includes housing construction and renovation or any investments that require the physical displacement or resettlement of people. Eligible investments in basic and climate-resilient infrastructure and services subprojects include: (i) rehabilitation of existing rural drinking water supply and sanitation systems to expand access through innovative, alternative models for rural drinking water supply and sanitation service delivery; (ii) retrofitting of public buildings for energy efficiency; (iii) rehabilitation of social infrastructure; (iv) rehabilitation of tertiary roads, walkways, and footpaths; (v) road drainage and strengthening the flood resilience of rural roads; (vi) bridge rehabilitation and construction (up to 10 meters long); (vii) street lighting upgrading; (viii) improvements to public spaces; (ix) solid waste management systems; (x) small-scale construction of public facilities; (xi) installation of antennas to provide wireless internet services; (xii) construction and rehabilitation of bus terminals and stops; and (xiii) energy supply activities. This

[1] located in the southern part of the Fergana Valley in the far east of the country. It borders the Namangan and Andijan Regions of Uzbekistan, as well as Kyrgyzstan and Tajikistan. It covers an area of 6,800 km². The population is estimated to be around 2,597,000, with over 71% of the population living in rural areas.

[2] located in the center of the country on the left bank of Syr Darya River. It borders with Kazakhstan, Tajikistan, Tashkent Region, and Jizzakh Region. It covers an area of 4,276 square kilometres (1,651 sq mi),[1] and is mostly desert, with the Starving Steppe taking up a significant part of the region's area. The population is estimated to be around 803,100.

[3] located in the center/east of the country. It borders with Tajikistan to the south and south-east, Samarqand Region to the west, Navoiy Region to the north-west, Kazakhstan to the north, and Sirdaryo Region to the east. It covers an area of 20,500 km². The population is estimated to be around 910,500, with some 80% living in rural areas

subcomponent will also finance the technical assistance (TA) for the technical design associated with the respective subprojects, which is estimated to cost 2 percent of the total cost of each subproject.

5. **Subcomponent 1b: Communications and community outreach, citizen engagement, local governance capacity building** *(US$11.7 million IDA)***.** This subcomponent will support Qishloq Facilitators (QFs) and Qishloq Engineers (QEs) to implement the following technical assistance, training, and capacity building activities for MDUs and DPCs:

a. *Participatory implementation cycle*, including, but not limited to: (i) communications and outreach on Project objectives, rules, and grievance redress system, including to women and vulnerable groups; (ii) participatory needs assessment in all neighborhoods/hamlets in participatory qishloqs; (iii) participatory development planning, prioritization, and selection of subgrant investments; and (iv) participatory O&M.

b. *Participatory monitoring and oversight*, including, but not limited to, citizen engagement in: (i) subproject monitoring by trained members of MDUs and (ii) social audits, using community scorecards, to ensure that Project decisions are inclusive and transparent, and the accountable use subproject funds.

c. *Technical assistance for subproject design and sustainability*, including, but not limited to, (i) basic engineering support to allow for initial environmental and social screening and preliminary subproject design estimates, and (ii) and to MDUs to design and implement autonomous water supply and sanitation systems.

6. **Component 2: Project management, monitoring and evaluation, and capacity building** *(US$7.9 million IDA, US$1.6 million GoU)* will provide support for (i) Project management activities, including overall coordination and supervision of Project implementation, communications and public outreach, Project audits, and financing of incremental operating costs; (ii) Project monitoring and evaluation (M&E) activities, Project transparency, and citizen feedback; (iii) managing a beneficiary feedback mechanism (BFM), including a grievance redress mechanism (GRM); and (iv) capacity building for regional hokimiyats for improved procurement, social and environmental safeguards practices, and quality of infrastructure designs

7. **Project location.** The project will be implemented in the following regions of Uzbekistan: Andijan, Namangan, Ferghana, Sirdarya and Jizzakh with an estimated total population of 11.6 million in all five areas. Fergana Valley, located in Uzbekistan, accounts for the largest part of the total population, about 9.5 million people, representing 28% of the total population of Uzbekistan. A quarter of low-income population of Uzbekistan lives in the region, and the average income falls on the lower part of the range of income. There is a part of the most fertile agricultural lands of Uzbekistan in the Fergana Valley, at the same time; there is also a relatively high level of industrial development here compared to other regions of Uzbekistan. Despite good opportunities, development challenges include biophysical (climate change causing weather variability, water scarcity, limited electricity generation capacity); social (increase in labour reserves); and economic (structural transition to a market oriented economic model, uneven growth leading to a development gap between regions) issues.

8. **Project's potential environmental and social impacts**. The project will support a large variety of demand-driven investments in basic infrastructure and services - water supply and sanitation service delivery; retrofitting of public buildings for energy efficiency; rehabilitation of social infrastructure; rehabilitation of tertiary roads, walkways, and footpaths; road drainage and flood control; bridge rehabilitation and construction; street lighting upgrading; improvements to public spaces; etc. The socio-economic impacts of the project will be mainly positive and related to the improvement of the quality and standard of living of the rural population in the project villages. However, civil works implementation could result in various adverse environmental and social impacts. Environmental impacts could include: (a) increased environmental pollution with waste, noise, dust, exhaust gases from fuel combustion products; (b) health and safety hazards and other problems resulting from construction activities; (c) increased contamination of groundwater and surface water as a result of inadequate avoidance and mitigation measures; (c) soil degradation and pollution; and (d) threats to human health as a result of improper handling of heavy machinery during construction activities. These impacts will be typical for construction or rehabilitation activities and can be mitigated through the application of best construction practices and/or appropriate mitigation measures. Furthermore, proposed activities under Component 2, targeted at providing assisting Mahalla Citizens Assemblies (MCAs) project committees to produce qishloq development plans, that identify subprojects to be financed through the

Project, also, indirectly can generate some environmental and social impacts (air and water pollution, waste generation, labor and health risks, etc.), which might occur during their implementation and operational phases.

9. On the social front, several social development as well as safeguard issues come to the fore. The former relates chiefly to: inclusion, equity, transparency, accountability and decentralized governance. Issues related to gender and forced labor figure prominently. Key aspect of the designing relates to the provision of social intermediation services to the local communities. As regards safeguards, some activities will require 'lands', which could result in temporary/ permanent physical and economic displacement as well as restrictions on access. While the social development issues will be addressed through the project designing, resettlement will be through the World Bank's Operational Policy – OP 4.12.

10. **WB Operational Policies.** The Project triggers WB Operational Policy (OP) *4.01 on Environmental Assessment*, as it will generate a series of negative environmental and social impacts (see above). As the project will not support subprojects such as agricultural production and planting or modernization of orchards, which may lead to increased use of agrochemicals, the *OP 4.09 on Pest Management* is not triggered. Similarly, *OP 4.04 on Natural Habitats and OP 7.36 on Forests* are not triggered as the project focuses on existing infrastructure in rural areas and no impacts on natural habitats and/or forests are expected. OP 4.11 on *Physical Cultural Resources* is not triggered as proposed subprojects that might affect such resources will be excluded from the Project financing. The *OP 4.12 on Involuntary Resettlement* is triggered due to the potential need to acquire small plots of land (temporary or permanent), restrict access, and require economic resettlement in connection with activities under Component 1a. Lastly, the OP 7.50 is also triggered because the proposed activities will use water from 'international waterways', and will discharge waste waters in the Syr Darya or their tributaries. However, the activities to be financed would be limited to rehabilitation, modifications and minor additions or alterations to existing schemes in ways which would not increase the amount of water abstracted or lead to appreciable impact on the water sources or local hydrological regime. As these investments are of rehabilitation nature and have positive impacts, the project team has obtained he "Exclusion to the notification of riparian states" was prepared and approved by the Bank Legal Department and Regional Vice President for Europe and Central Asia on August 30, 2019.

11. **Project category and proposed safeguard instruments.** In accordance with the Bank's safeguard policies and procedures, the project is classified as Category B for which an Environmental Assessment (EA) with Environmental and Social Management Plan (ESMP) is required. Detailed plans, however, are not possible at appraisal as the investments / sub projects will be identified by the local communities during implementation, gradually over time. Hence, the project adopts a framework approach and the corresponding instruments are: ESMF and RPF.

12. **The scope of the ESMF.** The ESMF will guide the ESIA process and covers the following: rules and procedures for environmental and social screening of subprojects to be supported under the demand-driven investments in basic infrastructure and services Project component 1a; guidance for conducting subprojects' ESMPs and ESMP Checklists and, for more complex impacts, the preparation of ESIAs[4]; mitigation measures for possible impacts of different proposed activities and types of subprojects to be supported by the project; main requirements for ESMPs and ESMP Checklists for producing qishloq development plans, that identify subprojects to be financed through the Project, to be done under the Component 1b; requirements for monitoring and supervision of implementing of ESMPs/ESMP Checklists, implementation arrangements. The ESMF has also an overview of the capacity of the PIU and local involved institutions for E&S risk management. Based on this review, the ESMF specifies capacity building activities that would include all these parties as well as activities on strengthening the capacity of participating local institutions on mitigating potential environmental and social risks and conducting subproject-level ESMPs/ESMP Checklists. A special attention in this regard will be on developing the capacity of regional (oblast) hokimiyats ESIA capacities. Lastly, the ESMF document provides a negative list that will include infrastructure investments with large-scale irreversible social or environmental impacts (Category A subprojects), including the subprojects located in protected areas, critical habitats or culturally- or socially-sensitive areas, along with subprojects which might

[4] Most of the project interventions will be very localized, with low to moderate environmental and social impacts. For this reason, the most common instruments to be prepared will be ESMP Checklists and ESMPs. More complex subprojects with more significant environmental risks and impacts, that are larger in scale and scope, and span larger land areas and landscapes may require the preparation of ESIAs.

have impact on international waterways, - all of these will be not supported under the Project. The negative list will also include subproject activities which may require permanent physical displacement.

13. **ESA requirements of national legislation.** The project will also follow the EA requirements of the national legislation and mainly those specified in the Law on Ecological Expertise (2000) and in the GoU Regulation on EIA (2018). The results of the comparison of the environmental and social regulatory framework of the WB and Uzbekistan showed that the main differences are related to the categorization (3 categories in the WB and 4 categories in Uzbekistan), requirements for the development of a separate Environmental and Social Management Plan (ESMP) (there is no such requirement in the process of Uzbek EA), public hearings and information disclosure (the national legislation specifies to do that only for more risky projects of Categoy I and II). Respectively, the ESMF stipulate in these cases the client will apply the requirements of the WB OPs.

14. **Land Acquisition.** Where land acquisition is required, the Project needs to draw a strategy and implementation action plan to secure land. Two broad methods of securing land envisaged under the Project are: (i) voluntary donations; and (ii) involuntary acquisitions. The former is traditionally a well-accepted practice in community led initiatives as the communities decide on the activities to be taken up under the Project. Yet, the Project lays out a series of "Dos and Don'ts" to ensure that donations are indeed 'voluntary' and that the land donor is not affected adversely as a result of the land donation. Involuntary land acquisitions, however, requires much more focused and planned attention as it could result in economic and/ or physical displacement and consequently several adverse impacts. However, impacts and risks are expected to be much lower as RIDP will not finance any activities which may require permanent physical displacement. The RPF therefore will define the procedures for: (i) acquiring land (voluntary and involuntary after all technical alternatives have been exhausted), (ii) dealing with any residual impacts from land acquisition (i.e. identifying, establishing the valuation of, and compensating people that suffer economic losses or loss of private property, (iii) monitoring and verification that policies and procedures are followed, and (iv) grievance redress.

15. Environmental and social screening will be undertaken for each subproject to determine the magnitude of displacement and prospective losses, identify vulnerable groups for targeting, ascertain the costs of resettlement, and prepare a resettlement action plan (RAP) for implementation. The project is expected to prepare mostly Abbreviated Resettlement Action Plans (ARAPs), as economic displacement is likely to affect 200 or fewer project-affected people (PAPs), or, if more than 200 people, affect less than 10 percent of their land and involve no physical relocation. The socio-economic data and analysis in the the qishloq community development plans will suffice in terms of a baseline for social risks and impacts.

16. Preparation of RAPs at appraisal is not possible as the subprojects will become known only during the implementation phase. While the broad category of activities and impacts is foreseen, exact magnitudes can become known only after detailed subproject designs are made. Hence, towards preparing a RAP, Project preparation included the development of a Resettlement Policy Framework (RPF). The key objective of the RPF is to provide a framework through which to appropriately identify, address and mitigate adverse socioeconomic impacts that may occur due to the implementation of subprojects that involve the involuntary acquisition of land and the subsequent resettlement of affected families.

17. In Uzbekistan, involuntary acquisitions leading to demolition of structures and physical displacements have been occurring on a significant scale. A number of grievances have surfaced in the recent times as common people have been impacted adversely. Concerns have been raised on local authorities not following due processes and not providing resettlement and rehabilitation assistance adequately and appropriately and in a reasonable time frame. These adverse impacts are unlikely to occur in respect of the investments assisted by the Bank's project (RIDP) as not only all the due processes will be defined and agreed upfront, but also, robust arrangements to ensure full compliance will be made. The RIDP will not be implemented in villages that have been supported by other state programs, including Obod Qishloq, which has been temporarily suspended, and Obod Mahalla.

18. **Gender.** The Project will focus on closing two gender gaps: (i) voice and participation in community-level decision making; and (ii) access to services. Women are underrepresented in MCA chair positions and district and regional hokimiyat offices. To address this gap, the Project has established 50 percent targets for

women's representation in DPC, MCA project committees, Drinking Water Organizations, and social accountability roles, i.e.,, monitoring and oversight. In addition, women bear the burden of poor access to water services and poor-quality water, as well as an insufficient number of kindergartens. Inadequate and poor-quality services negatively impact women's employment opportunities. The Project will address this gap in access to services by (i) enhancing women's voice and participation in community decision-making as described above (ii) ensuring that the project committees conduct outreach with women's groups; and (iii) financing investments that improve access to quality drinking water and pre-school services. The Project includes results indicators to monitor these actions.

19. **Labor.** Three dimensions merit discussion – child labor, forced labor, wages, and migrant labor. The project emphasizes and adopt ILO's concept of 'decent work'. This implies:Work that is free, fairly paid, safe, socially protected, not diminishing human dignity, opening equal starting opportunities for all, guaranteeing participation in making management decisions and personal development. These fundamental principles of decent work will underscore implementation of sub-projects. Over the past four years, ILO's third-party monitoring (TPM) has demonstrated Uzbekistan's major progress in eradicating child labor and forced labor in the cotton sector. Systematic or systemic child labor can no longer be considered a serious concern. Yet, a considerable number of forced labor cases are still observed in the cotton sector. In addition, the media has recently reported on a number of alleged forced labor incidents in public works projects. Consequently, considerable work remains to be done. There is a continued strong political commitment and clear communication from the government of Uzbekistan to eradicate forced labor. The Government is encouraging journalists to cover forced labor cases. Local independent human rights activists are free to monitor labor conditions. The government is continuing to strengthen the labor inspectorate. In 2018, the ILO trained 200 inspectors on forced labor investigations and the Government deployed them throughout the country to investigate alleged forced labor cases.. As plenty of labors are available in the rural areas, there is no problem of labor influx. Most works will deploy laborers locally. However, capacity building measures will ensure that the local Mahalla Committees and District Authorities as well as other Service Providers will take due note of the decrees of the GOU and ensure avoiding Forced and Child Labor deployment.

20. **Component 2 will support measures to ensure no forced labor is used in the Project.** Forced labor mitigation measures will include capacity building of regional and district hokimiyats in Ferghana Valley and residents (including MCA chairs, women, youth, activists) of selected villages on national labor legislation including norms regulating public works that strictly prohibit the use of forced labor. For this purpose, PIU will collaborate with specialists from the International Labor Organization (ILO) and labor inspectors from the Ministry of Employment and Labor Relations (MoELR) to: (i) provide regular trainings to hokimiyats and MCA members on labor practices; (ii) monitor and report on any cases identified; and (iii) implement a public awareness campaign on labor rights, practices, and grievance redress systems. The PIU will build an internal communications channel with MoELR's Labor Inspectorate to report on cases of forced labor submitted through the Project's GRM and facilitate the investigation process. The Project will also coordinate with MoELR on setting up mechanism for efficient use of the Public works Fund's resources under MoELR to reduce cases of forcing civil servants to contribute labor to public works projects.

21. **Citizen engagement:** The Project's design ensures citizen engagement throughout the Project cycle. Under Component 1, communities will carry out participatory needs assessments and engage in participatory decision-making processes that result in the identification of subprojects that reflect the priorities of and are relevant to beneficiaries. To ensure that regional and district hokimiyats and MCAs are accountable for resources and responsive to the preferences and needs of community members, including vulnerable groups, the FP's will provide capacity-building for local government and community officials on how to engage with citizens and deliver services efficiently, fairly, and in response to the needs of citizens, including women, youth and the disabled. The FP's will train women in conducting social audits and reporting back to the target communities on the progress of implementing the subproject over the year, the breakdown of expenditures, and any financial or technical audit findings. This type of event will provide a public forum for communities and their representatives to present problems and express grievances or other issues regarding the Project. In addition, to bolster oversight of project expenditures, the Project will require citizens to sit on tendering committees that the SCS organize for the infrastructure projects financed by Subcomponent 1a. The Project will also require MCA project committee representatives to sign-off on progress reports before the PIU pays the contractors for the work. The FPs will provide training to community members to enable them to fulfill these two oversight functions. The Project's results framework includes indicators to measure progress of the

procurement monitoring, as well as beneficiary's perceptions of the effectiveness of these engagement processes and Project investments.

22. **ESMF/ RPF implementation arrangements.** The main agency implementing the project is the Ministry of Economic development and poverty reduction (MoED) of the Republic of Uzbekistan. The Project Implementation Unit (PIU) is established at the national level to coordinate and implement the project in the three regions of the Ferghana Valley and Jizzakh and Sirdarya regions. At the regional level the project will be implemented through the oblasts' working groups, which will work in close cooperation with relevant oblast Khokimiyats.

23. **ESA responsibilities.** The responsibilities of the PIU include issues related to project preparation, including the development of the ESMF, procurement strategy and plan, and other fiduciary activities. The PIU will hire Environmental and Social Safeguards Specialists (SSs) which will oversee overall coordination of ESMF and individual ESMPs/ESMP Checklists implementation, reporting to MoED and to the WB regarding safeguards issues, as well as of integrating safeguards requirements into biding and contracting documents. He/she also will be responsible for interaction with the environmental authorities, ensuring an efficient implementation of safeguards documents and will undertake, randomly, field visits and environmental supervision and monitoring, assessing environmental compliance at worksites, regional administration on environmental and social safeguards issues. The PIU SS will be also responsible for identifying ESA training needs for all parties involved in ESMF/ESMPs implementation. The Regional will also include by one SS, whose main duties would be to ensure that the project activities are implemented in compliance with the WB safeguards Operational Policies and national EA rules and procedures. Among major responsibilities of the regional SS will be the following: (a) ensuring that contractors complies with all ESMPs requirements; (b) coordinating of all environmental and social related issues at the regional and district level; (c) conducting ESMP supervision and monitoring and assessing environmental and social impacts and efficiency of mitigation measures, as well as identifying non-compliance issues or adverse trends in results, and putting in place programs to correct any identified problems; (d) when needed, providing advises and consulting contractors in ESMP implementation; and, (e) reporting to the PIU with regard to ESMP/ESMP Checklist implementation. All regional SSs will report to the PIU.

24. **The Grievance Redress Mechanism.** Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to the project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). Project specific GRM is developed drawing upn the existing complaing handling mechanism and encompasses establishing external committees at different levels to redress the grievances.

25. Grievance Redressal Committee (GRC) will be established at four-levels, one at Mahalla level and the others at district, region, and PIU to receive, evaluate and facilitate the resolution of displaced persons concerns, complaints and grievances. The GRC will provide an opportunity to the locl people to have their grievances redressed prior to approaching the State Authority. The GRC is aimed to provide a trusted way to voice and resolve concerns linked to the project, and to be an effective way to address aggrieved person's concerns without allowing it to escalate resulting in delays in project implementation.

26. The GRC will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. The GRC is not intended to bypass the government's inbuilt redressal process, nor the provisions of the statute, but rather it is intended to address displaced persons concerns and complaints promptly, making it readily accessible to all segments of the displaced persons and is scaled to the risks and impacts of the project.

27. The GRC will continue to function, for the benefit of the PAPs during the entire life of the project including the defects liability periods. The response time prescribed for the GRCs would be three weeks. Since the entire resettlement component of the project has to be completed before the construction starts, the GRC, at Mahalla and District will meet at least once in three weeks to resolve the pending grievances. Other than disputes relating to ownership rights and apportionment issues on which the State has jurisdiction, GRC will review grievances involving all resettlement benefits, relocation and payment of assistances.

28. **The Facilitating Partner** (NGO) will mobilize QFs and QEs to support Project implementation at the district and qishloq levels. Their tasks include assisting the persons in registering their grievances and in being heard. The complaint / grievance will be redressed in three weeks time and written communication will be sent to the complainant. A complaint register will be maintained at Mahalla/ District/ PIU level with details of complaint lodged, date of personal hearing, action taken, and date of communication sent to complainant. If the complainant is still not satisfied s/he can approach the jurisdictional State Authority. The complainant can access the appropriate Authority at any time and not necessarily go through the GRC. QEs will also support Mahalla Citizens Assembly (MCA) project committees to conduct the initial screening for social and environmental impacts of proposed subprojects and identify alternatives that avoid or minimize such impacts.

29. **ESMF disclosure and Public consultation**. ESMF and RPF preparation has been highly participatory. Extensive consultations have been held with various stakeholders including the public communities, local / district/ regional authorities, other departmetns and service providers. The stakeholders' expectations and the related issues/ concerns have been taken due note of while preparing these instruments. The draft ESMF and RPF in English and Russian languages were disclosed on August 21, 2019 on the MoED website. Consultation workshops were held in the the participating regions on August 27-28 and in Tashkent city on August 29, 2019. Based on suggestions received during the consultation workshops, the ESMF and RPF documents have been updated, finalized and published on the MoED website and will be published on the external WB website.

2. PROJECT DESCRIPTION

2.1 The objectives of the project and potential beneficiaries

30. The government of Uzbekistan (GoU) is implementing an unprecedented reform agenda with consequences for all citizens, which includes measures to open up space for civil society and civic engagement. High-level reform objectives laid out in the GoU's Action Strategy on Priority Areas of the Country's Development for 2017–2021 and Concept for Administrative Reform, include: (i) transforming the relationship between the GoU and its citizens to one of partnership, and (ii) increasing transparency and accountability in the ways regional and local governments serve the population. These strategies include ambitious targets for improving rural residents' quality of life and reducing poverty. To achieve these objectives, the GoU is supporting various national state programs, including those that construct new and rehabilitate existing infrastructure to improve access to basic services and markets, and support employment-generating opportunities.

31. The Rural Infrastructure Development Project (RIDP, the "Project") is an initiative of the GoU that promotes participatory, village-based development to reduce infrastructure and service-delivery gaps. The RIDP is based on the principles of community-driven decision-making, outreach to and inclusion of the poor and vulnerable within communities, gender equity, and transparency and accountability Using a learning-by-doing approach, the RIDP will trial design adjustments aimed at increasing community participation in project decision-making and oversight, transparency and accountability in project implementation, and the quality and sustainability of subproject investments that can be replicated and scaled up through other state programs.

32. The RIDP is implemented by the MoED with support from the World Bank (WB) and the Asian Infrastructure Investment Bank (AIIB). The development objective of the RIDP is to (i) improve the quality of basic infrastructure, and (ii) strengthen participatory local governance processes in selected qishloqs, where "participatory local governance" refers to inclusive village participation in needs assessments; the planning, prioritization, and selection of subproject investments; and oversight activities including the monitoring of procurement, subprojects, and social audits. To increase participation and village-led decision-making and oversight, a key design innovation introduced under the RIDP is the provision of facilitation support to participating district administrations and qishloqs in the form of trained Qishloq Facilitation Teams.

33. The **project development objectives** are: (i) to improve the quality of basic infrastructure and (ii) to strengthen participatory local governance processes in targeted rural villages**.**

34. The project will support infrastructure development in 21 lagging districts in ***Andijan region (*** Boz, Bulakbashi, Marhamat, Ulugnar and Pakhtaobod districts); in ***Namangan region*** (Chartak, Chust, Mingbulak, Yangikurgan and Pop districts); in ***Fergana region*** (Yazyavan, Furqat, Kushtepa, Sokh districts), in ***Syrdarya region*** (Boevut, Sardoba and Hovos districts) and ***Jizzakh region*** (Bakhmal, Zomin, Forish and Yangiobod districts).

2.2 Project components and planned investments

35. The project consists of the following components**:**

36. **<u>Component 1: Demand-driven investments in basic infrastructure and services and local governance capacity support</u>** (US$175.7 million: US$93.7 million IDA, US$82 million AIIB). This component will finance local-level, climate-resilient subproject investments in social infrastructure and services that communities plan and prioritize. This component will also provide technical assistance and facilitation support to hokimiyats and MCAs to engage communities in inclusive, transparent processes to plan, select, implement, and maintain investments as defined in the POM.

37. **Subcomponent 1a: Demand-driven investments in basic infrastructure and services** (US$164 million: US$82 million IDA, US$82 million AIIB). This subcomponent will finance subproject investments identified by MCAs in eligible qishloqs through the participatory Project implementation cycle as defined in subcomponent 1b and detailed in the POM, subject to a negative list that includes housing construction and

renovation or any investments that require the physical displacement or resettlement of people. Eligible investments in basic and climate-resilient infrastructure and services subprojects include: (i) rehabilitation of existing rural drinking water supply and sanitation systems to expand access through innovative, alternative models for rural drinking water supply and sanitation service delivery; (ii) retrofitting of public buildings for energy efficiency; (iii) rehabilitation of social infrastructure; (iv) rehabilitation of tertiary roads, walkways, and footpaths; (v) road drainage and strengthening the flood resilience of rural roads; (vi) bridge rehabilitation and construction (up to 10 meters long); (vii) street lighting upgrading; (viii) improvements to public spaces; (ix) solid waste management systems; (x) small-scale construction of public facilities; (xi) installation of antennas to provide wireless internet services; (xii) construction and rehabilitation of bus terminals and stops; and (xiii) energy supply activities. This subcomponent will also finance the technical assistance (TA) for the technical design associated with the respective subprojects, which is estimated to cost 2 percent of the total cost of each subproject.

38. Consistent with the ongoing state programs supporting rehabilitation of basic infrustructure in rural areas, the RIDP will encourage contractors to utilize local labor in the subgrant infrastructure construction or rehabilitation as much as possible.

39. The amount of RIDP financing available to the participating qishloqs for infrastructure and services subprojects will be pre-determined on the basis of district and qishloq population size. The average allocation for qishloq is expected to be around US$500,000, or around $160 per capita, that can be used to finance multiple subprojects identified in the qishloq development plan. Qishloqs may pool resources to jointly finance investments where appropriate and in line with environmental and social safeguards policies.

40. **Operations, maintenance, and sustainability.** Subcomponent 1a will be designed and implemented with measures to ensure that subproject investments deliver sustainable benefits to communities and local governments. Subprojects will apply tried and tested designs and O&M arrangements, such as those developed for autonomous drinking water and sanitation systems in the Ferghana Valley and Sirdarya regions.[5] Subprojects will apply appropriate climate- and natural hazards-resilient technical designs. The Qishloq Facilitators (QFs) and Qishloq Engineers (QEs) supported through Subcomponent 1b will provide capacity-building training to O&M subcommittees of the Mahalla Development Units (MDUMDUs) and district project committees (DPCs) on how to prepare appropriately designed and funded O&M plans as a precondition for subproject approval. After the renovation and reconstruction works are completed, the relevant line ministry or agency assumes responsibility for maintaining the infrastructure. The proposed Project will apply the same arrangements with a few exceptions: (i) as part of the planning process, the MDU will define the tariff level needed to operate and maintain the autonomous water supply and sanitation system to be collected by the Community Drinking Water Organization (CDWO) while operating the system; (ii) the MDUs and DPCs will inform the district and regional governments and utilities of the subprojects to be financed by the Project to allow them to budget for the resources that will be needed for O&M; and (iii) except for the autonomous drinking water supply and sanitation subprojects that are owned by CDWOs, at the end of the Project period, the DPC will facilitate the handover of the assets to the relevant line ministry or agency.

41. **Selection of subprojects and implementation.** To be eligible for Project financing, each MDU must produce a qishloq development plan and demonstrate that it was produced following participatory rural appraisal exercises that involve all residents, account for gender equity goals, and prioritize subprojects that contribute to improving living standards. Proposed subprojects, including O&M plans, should be technically viable, be coordinated and aligned with GoU investment plans, and demonstrate sustainability. The POM will detail the selection criteria for the subprojects, including weighting toward the needs of women.

42. **Innovative, alternative models for rural drinking water supply and sanitation service provision**. This eligible subproject investment aims to rehabilitate existing water supply and sanitation systems by applying innovative, alternative models for drinking water supply and sanitation service delivery envisaged through Presidential Decree Number 4040 dated November 30, 2018. If communities select this subproject type, the Project will finance the goods, works, and services required to implement small-scale autonomously managed water supply and sanitation systems. The construction of the systems provides users with metered

[5] The designs and O&M arrangements were trialed, scaled, and endorsed by the GoU through the Rural Water Supply and Sanitation Project in Uzbekistan financed by the Swiss Agency for Development and Cooperation (SDC).

water supply connections on their premises. The subproject includes the construction and use of environmentally sound sanitation facilities for human waste disposal. Developed through the Rural Water Supply and Sanitation Project in Uzbekistan, the model's financing is based on consideration of full life-cycle costs, climatic factors and resilience, and the capacity support requirements of the community drinking water organization (CDWO) that the MDUs will establish to operate the system. Once the water and sanitation system is complete, the CDWO will be responsible for its associated O&M. If the CDWO is unable to continue to operate it, the system will be transferred to the MCA.

43. **Subcomponent 1b: Communications and community outreach, citizen engagement, local governance capacity building** (US$11.7 million IDA). This subcomponent will support QFs and Qishloq Engineers QEs to implement the following technical assistance, training, and capacity building activities for MDUs and DPCs:

a. *Participatory implementation cycle*, including, but not limited to: (i) communications and outreach on Project objectives, rules, and grievance redress system, including to women and vulnerable groups; (ii) participatory needs assessment in all neighborhoods/hamlets in participatory qishloqs; (iii) participatory development planning, prioritization, and selection of subgrant investments; and (iv) participatory O&M.
b. *Participatory monitoring and oversight*, including, but not limited to, citizen engagement in: (i) subproject monitoring by trained members of MDUs and (ii) social audits, using community scorecards, to ensure that Project decisions are inclusive and transparent, and the accountable use subproject funds.
c. *Technical assistance for subproject design and sustainability*, including, but not limited to, (i) basic engineering support to allow for initial environmental and social screening and preliminary subproject design estimates, and (ii) and to MDUs to design and implement autonomous water supply and sanitation systems.

44. A qishloq facilitation team consists of three members: one male and female QF and one QE. Each qishloq facilitation team will support the participatory implementation cycle in six qishloqs simultaneously. The Project will test two modalities for delivering the technical assistance and capacity building activities to MDUs and DPCs. Through the first modality, the PIU will contract Facilitating Partners (FPs) selected from NGOs or private sector entities who will mobilize, train, and manage QFs and QEs. Through the second modality, the PIU will directly hire and manage QFs and QEs as individual consultants. Over its duration, the Project will attempt to build the capacity of the PIU to deploy and manage QFs and QEs through GoU systems, thereby allowing for the phase-out of the FP delivery modality.

Sequence of the participatory implementation cycle

45. The eight-step participatory implementation cycle is described in detail in Annex 1. Its key elements are described in the following paragraphs. Step 1: Participatory qishloq selection. (i) With the QFs' assistance, the district hokimiyat will establish DPCs in each of the 21 target districts. The district hokim will chair the DPC and appoint other committee members, including: representatives from each MCA in the district that is eligible for Project financing, representatives of relevant district hokimiyat departments, such as the department on capital infrastructure, and representatives of the district's departments of Mahalla and Family affairs responsible for women issues and local CSOs. (ii) The DPCs, with FPs' support, will identify qishloqs that will participate in the Project using a participatory approach (see section on Project Beneficiaries). (iii) The DPCs will communicate the results of the qishloq selection process and the Project's objectives and parameters to eligible MCAs.

46. **Steps 2-6: Participatory development planning and subproject selection**. (i) The QFs will socialize the Project among qishloq residents. (ii) The QFs will help MCAs establish MDUs comprised of at least 50 percent women and a subcommittee on O&M.[6] (iii) With the assistance of the QFs, the MDUs will carry out participatory needs assessments and planning, including the dissemination of information concerning planned government investments in qishloqs, the identification of potential investment synergies across neighboring

[6] The MPCs will consist of community members selected by the community based on traits such as trustworthiness and the possession of specific technical skills (e.g. in infrastructure, community mobilization, oversight of infrastructure). The FPs will provide training to female committee members on how they can ensure that women in the community meaningfully participate in the Project's participatory cycle (needs assessment process, prioritization, and oversight) and that they have information on the costs and benefits of different types of subprojects, such as kindergartens, road rehabilitation, and streetlight installation.

qishloqs and the prioritization of investments with specific outreach to women, youth, the disabled, and other vulnerable community members. From the list of priority investments identified by communities, the MDUs will develop an overall three-year development plan for the qishloq, which includes the proposed infrastructure projects for RIDP financing.[7] Representatives from the DPCs will work with the O&M subcommittee of the MDUs to develop O&M plans for the infrastructure subprojects prioritized to receive Project financing. When selecting subproject proposals to finance, the MDUs will weigh multiple criteria including the number of beneficiaries (including women), plans for O&M of investments, and the level of local contribution and co-financing. (vi) The MDUs will submit the qishloq development plans with the proposed subgrant investments to the DPCs for verification based on whether the subproject proposals meet the Project's technical requirements, adequate O&M arrangements are in place, and if other parts of the government are not already financing the investments. The district hokimiyat will send the approved qishloq development plans, including the RIDP subproject proposals, to the regional hokimiyat for verification, which will then send it to the central PIU for final verification.

47. Steps 7-8: Institutional Strengthening and participatory monitoring and oversight. The QFs and QEs will train nominated community members (including at least 50 percent young men and women) to play a role in monitoring project implementation. While the SCS engineering companies in the regional hokimiyats are responsible for procuring subproject investments, the Project will require a qishloq representative outside the MCA executive committee to sit on the tendering committee for both design and construction tenders and to provide oversight to ensure that the committee adheres to the agreed Project procurement manuals and procedures. The MDU will be responsible for identifying and nominating a qualified community member to play this role, and FPs will help train this representative. In addition, the nominated community members will consult regularly with design agencies during the subproject design process to ensure that local residents' suggestions are taken into account, and to monitor the construction of the subprojects, including whether they are completed on time and to the agreed technical and social standards and budget. Before the PIU releases the final payment to the contractor, the Project will require a representative of the monitoring committee and QE to sign off on the construction work. The PIU senior infrastructure specialist and regional technical supervision specialists will be actively engaged with MDUs and qishloq residents to make sure that the contractors and MCAs agree on the design of all subprojects, to train qishloq residents to monitor the design and construction processes, and to provide overall technical support and guidance when needed. Social audits will consist of public forums in which district hokimiyats representing the DPCs and MDUs report on progress, challenges, and fiduciary information at least twice during the annual implementation cycle. Contractors as well as beneficiaries will participate in the social audit process. The QFs will help the MDUs and DPCs conduct these meetings to ensure that the decisions are inclusive; that they are made from the bottom up; that there is continuity in the chain of decisions made by focus groups (e.g., women); and that they enable the MDUs, DPCs, and contractors to explain the expenditures on Project subprojects. Transparency will be a key parameter. The QFs will provide logistical support to ensure broad attendance by community members and representatives of MCAs and DPCs, including 50 percent women. The subcomponent will fund the technical support needed to prepare, organize, and document these meetings with the QFs' and QEs' assistance.

The purpose of the social audit is to give members of the community, from all neighborhoods, an account of the resources allocated to the project as defined in the QDP, the location of the new or refurbished infrastructure and its relation to other neighborhoods that do or do not have certain infrastructure and services, and the overall achievements (in line with the QDP) of the MDU. The social audits will also consider the quality of the infrastructure, whether it meets people's expectations, and whether the infrastructure is being suitably maintained by the community or line ministry (whichever is the appropriate arrangement). The social audits will ensure that the MDUs are transparent and accountable to the people who elected them and that the construction firms are doing their work properly.

Social audits will take the form of public forums in which district Khokimiyats, representing DPCs and MDUs, report progress, challenges, and fiduciary information to communities at least twice a year during the project implementation cycle. Contractors and beneficiaries will participate in the social audit process. The RIDP facilitators will help the MDUs conduct these meetings to ensure that the social audit process is inclusive of

[7] The legal basis for the qishloq development plans is the Law on Self-governing Bodies and the President's Decree on Measures to Provide Settlements with Master Plans in 2018–2020, Improvement Activities of Design Organizations, and Improving the Quality of Preparation Specialists in Urban Planning No-3502, February 2, 2018.

all neighborhoods and that all vulnerable groups are represented at the meeting. The MDU will review the QDP process and confirm that decisions were made from the bottom up and that there has been continuity in the chain of decisions made by community members; and the DPCs and contractors will explain Project-related expenditures. Transparency will be a key parameter for social audits. The RIDP facilitators will provide logistical support to ensure broad attendance by village members and representatives of MCAs and the DPC, which should be 50 percent women. At the conclusion of each social audit, a protocol will be drafted that summarizes the results and will be signed by MDU members, RIDP facilitators, and the PIU regional ESSS. RIDP facilitators will fill out RIDP form 6a or 6b and upload to the MIS at the conclusion of each social audit.

The first social audit will take place six months after the MDU election and will focus on people's perception of the quality of the planning process and of the performance of MDU members and RIDP facilitators. See the Community mobilization Manual for step-by-step guidelines for social audits.

48. Subcomponent 1b will support QFs, QEs, and MDUs to apply digital technologies to increase participation, inclusion, transparency, and accountability throughout the Project cycle. Applications will include: (i) QFs' use of mobile phone or tablet-based data collection instruments to produce an objective, evidence-based qishloq ranking system and to conduct qishloq-level needs assessment activities the results of which will be uploaded to the Project management information system (MIS); (ii) QFs' and DPCs' use of social media and instant messaging platforms/bots (e.g., Telegram) to (a) disseminate information on Project events, rules, procedures, data analysis, maps, and sources for grievance redress and (b) crowd-source inputs on qishoq development priorities from residents.

49. **Capacity-building support for autonomous water supply and sanitation systems.** In communities that select autonomous water supply projects, the Project will finance a minimum package of TA for MDUs, CDWOs, and communities. The participatory design for the autonomous water supply and sanitation subproject will incorporate the following elements: (i) QFs and QEs mobilize community members and convene discussions to define and develop solutions to the community's water needs. The QFs inform the community that for the model to operate effectively, the community's financial contributions are expected to be 10–30 percent of the total cost of the system; (ii) QFs help the communities establish a CDWO—a non-governmental, non-commercial organization that is registered with the Ministry of Justice and liable to the rules of such organizations. The CDWOs are responsible for mobilizing community members to monitor the construction of the water and sanitation systems, setting up an O&M plan and full cost-recovery tariffs, achieving community consensus around these tariffs, and subsidizing poor families (identified by the MDU and confirmed by the CDWO) who cannot afford the full tariffs; and (iii) Community members elect representatives to the General Assembly of the CDWO. They gather at least once a year to approve the accounts of the organization, establish (and, as necessary, revise) tariffs, and decide on any major changes to the CDWO. The General Assembly members elect a Management Board. The Management Board appoints community members to serve on an Executive Committee, which is in charge of the everyday supply of water, the maintenance of the water system, the collection of tariffs, and all other operations related to the system. The tariffs pay for the salary of the Executive Committee members; all other positions on the CDWO are voluntary. The average number of people on a CDWO Executive Committee for a qishoq with a population of 5,000 is around ten people. The QFs and QEs will provide training and capacity building on registering the CDWO, tariff setting, billing and collection systems, O&M, water quality testing, customer relations, complaints mechanisms, human resources, and awareness raising on sanitation and hygiene. The QFs will also train CDWO members on how to mobilize nurses, doctors, and teachers in the qishloq to raises communities' awareness of water-related hygiene and wastewater treatment facilities at the household level.

50. **Component 2: Project management, monitoring and evaluation, and capacity building** (US$7.9 million: US$6.3 million IDA, US$1.6 million GoU) will provide support for (i) Project management activities, including overall coordination and supervision of Project implementation, communications and public outreach, Project audits, and financing of incremental operating costs; (ii) Project monitoring and evaluation (M&E) activities, transparency, and citizen feedback; (iii) managing a beneficiary feedback mechanism (BFM), including a grievance redress mechanism (GRM); and (iv) capacity building for regional hokimiyats for improved procurement, social and environmental safeguards practices, and quality of infrastructure designs.

51. **The component will finance a PIU** that includes a project director and experts in participatory development (i.e., community mobilization and participatory needs assessments, prioritization, monitoring and oversight), gender, citizen engagement, civil engineering/infrastructure quality, project management, communications, procurement, FM, MIS, and M&E. This team will prepare annual workplans and budgets and oversee the design and implementation of the POM, including creating training manuals and terms of reference for all staff and consultants.

52. This component will strengthen the capacity of PIU and regional hokimiyats on planning, results monitoring, reporting and delivering local infrastructure and services using good governance practices. It will ensure regular coordination with national stakeholders, including the departments of economy and industry; finance; tax committee; investments and foreign trade; employment and labor relations; youth union and women's committee; labor resources, geodesy, cartography, and state cadastre; communal services and housing; Transgas, Uzbekenergo, and other relevant agencies. This subcomponent will finance TA and capacity building for regional hokimiyat and SCS engineering company staff on procurement and citizen engagement practices. The subcomponent will also finance capacity-building and TA activities to strengthen SCS' and regional and district hokimiyats' monitoring and oversight capacities, with a focus on the independent quality control of works executed under the Project, including by citizens, and complaints handling. In addition, the PIU's engineering staff and consulting services will work with the SCS offices under the regional hokimiyats and local design institutes to strengthen the engineering designs for the eligible subprojects and their capacity to build climate-resilient designs into the local infrastructure.

53. The component will support the use of digital technologies to build the capacity for better-quality local infrastructure, and and oversee Project implementation in three ways: (i) online training and education modules will be developed targeting regional hokimiyat, SCS, local design institutes, FPs, and MDUs personnel on infrastructure design and construction methodologies (e.g., reinforced concrete practices, erosion control methods, slope and embankment treatments); (ii) a mobile application linked to the MIS (see below) will be developed to allow PIU staff to update geo-coded administrative data on all approved subprojects during the implementation and O&M phases, which will allow project managers to monitor infrastructure in real time and provide the basis for *ex post* technical audits. The MIS will include an open access portal allowing citizens to upload photos, videos, and comments on the subprojects; and (iii) the PIU will administer frequent e-surveys of MDU members to help monitor implementation progress. The e-survey questions for MDUs will cover progress on participatory needs assessments, qishloq development planning and decision making, implementation and oversight of subprojects, and the challenges faced.

54. **Component 2 will finance a communications and public outreach campaign** to educate stakeholders in international media, human rights, and development organizations; national, regional, district, and qishloq governments; (social) media; and civil society on the differences in objectives, rules, and procedures between ongoing state programs and the proposed Project, and provide information on the BFM. The campaign will use short message services (SMS)/bots to remind citizens about their rights with respect to forced labor, evictions, GRMs, and demolitions.

55. **The component will support measures to ensure that no forced labor is used in the Project.** Forced labor mitigation measures will include capacity building of regional and district hokimiyats in all project regions and residents of selected qishloqs (including MCA chairs, women, youth, activists) on national labor legislation including norms regulating public works that strictly prohibit the use of forced labor. For this purpose, the PIU will collaborate with specialists from the International Labor Organization (ILO) and labor inspectors from the Ministry of Employment and Labor Relations (MoELR) to: (i) provide regular trainings to hokimiyats and MCA executive committee members and MDUs on labor practices; (ii) monitor and report on any cases identified; and (iii) implement a public awareness campaign on labor rights, practices, and GRMs. The PIU will build an internal communications channel with MoELR's Labor Inspectorate to report on cases of forced labor submitted through the Project's GRM and facilitate the investigation process. The Project will also prohibit voluntary labor contributions to subprojects. Contractors that will implement all subprojects must abide by the prevailing labor provisions.

56. Additional resources will be provided under this component as needed to build the PIU's BFM to address grievances, comments, and other feedback regarding the Project. Its design will include a GRM that

will specify the systems and requirements for grievance redress, including uptake, sorting and processing, acknowledgement and follow-up, verification and action, and monitoring. The PIU will establish a unit tasked with this role, which will collect grievances and feedback from MCAs and citizens, transmit this information to the appropriate authorities, and report to the PIU director and MoED department responsible for appeals from individuals and legal entities.

57. **Component 2 will finance within-region and across-region learning exchanges for members of SCSs, DPCs, and MDUs.** These exchanges will be designed to share innovations and solutions to common problems, and to build networks to allow participants to continue conversations following the visits. As part of these activities, the PIU will organize a gender network to bring together female members of MDUs and DPCs to discuss ways of improving gender equality and women's empowerment.

58. Component 2 will also finance annual multi-stakeholder reviews that will bring together a range of stakeholders at the regional and national levels to share experiences from implementation and discuss ways to improve the Project's design and implementation for the next cycle. These reviews will include findings from social, technical, and financial audits and lessons learned with regard to governance and anti-corruption measures and gender. Following each annual review, the PIU will update the POM as necessary

59. **M&E.** Component 2 will support M&E activities to track, document, and communicate the Project's progress and results. An M&E team within the MoED PIU will be responsible for compiling this information. Component 2 will provide financing for the PIU to prepare and submit quarterly and semiannual unaudited interim financial reports (IFRs) to the World Bank. The component will also finance an MIS, which the PIU will establish and utilize for Project monitoring, automatic generation of Project reports, Project transparency (subproject information will be publicized on maps), and citizen feedback. Feedback and grievances received through the BFM will be included in the semiannual reporting.

60. Results measurement will primarily focus on the outcomes defined in the results framework and the output indicators listed in the POM. Component 2 will finance baseline, midline, and endline project monitoring surveys to assess the results indicators of the project development objectives. The PIU will be responsible for producing a completion report based on MIS and survey data. It will also finance a process tracing evaluation to assess whether and why outcomes differ in Project qishloqs and state program qishloqs. It will also finance *ex post* technical audits of infrastructure projects completed in a sample of Project qishloqs and state program qishloqs.

61. **RIDP is targeting the Ferghana Valley specifically, Ferghana, Andijan, and Namangan regions and additional Sirdarya and Jizzakh regions.** Within five regions, the Project is focusing on 21 districts classified as lagging by the GoU. Within these districts, the DPCs will use a participatory process to select approximately 300-310 qishloqs. The committees will work with MCA members to complete forms that include indicators on qishloqs' remoteness, infrastructure needs, and exposure to floods, erosion, salinity, desertification, and other natural or climate-induced disasters. After the MCA members complete the forms, the DPC will rank qishloqs based on the information provided. The committee will select the highest-ranked qishloqs to participate in the Bank-financed project. All of the data that the MCAs use to select the participating qishloqs will be publicly available on the Project's MIS. This participatory approach to selecting qishloqs to participate in RIDP is a departure from the government-financed programs in which regional hokimiyats very often use non-transparent criteria to select qishoqs for program participation.

2.3 The scope and objectives of Environmental and Social Management Framework (ESMF)

62. The main goal of the Environmental and Social Management Framework (ESMF) is to define the measures, ways and mechanism for avoiding, minimizing and/or mitigating potential negative environmental and related social impacts that may occur as the result of implementation of the project. The ESMF adopts a Community Driven Development (CDD) approach which requires the citizen engagement for identification of needs of community to basic services. The subprojects will be formulated to address these needs. Details of these subprojects will be known after the technical design preparation. The ESMF ensures that the identified subprojects are correctly assessed from environmental and social perspective to meet WB's Safeguards Policies alongside with Uzbekstan's Environmental and Social Laws and Regulations for adequate mitigation residual and unavoidable impacts (if any).

63. ESMF provides guidelines for the development of appropriate mitigation and compensation measures for adverse impact caused by project activities. In this document the background/context, the policy and regulatory framework are described as well as environmental and social impacts of possible subprojects. This includes Environmental and Social Assessment (ESA) procedures and guidelines, institutional arrangements, consultation and disclosure procedures. The policy and regulatory framework considers the compliance with the national laws and WB requirements. ESA guidelines and procedures serve to define the responsibilities for sub-project preparation, screening, appraisal, implementing and monitoring. With the help of these guidelines the requirements for the sub project Environmental and Social Management Plans (ESMP) will be outlined.

64. The ESMF serves also to provide details on procedures, criteria, and responsibilities for subproject environmental and social screening, preparing, implementing and monitoring of subproject specific ESIAs. Towards preparing a RAP, project preparation has developed a Resettlement Policy Framework (RPF). The key objective of the Resettlement Policy Framework is to provide a framework to appropriately identify, address and mitigate adverse socioeconomic impacts that may occur due to the implementation of subprojects that involve the involuntary acquisition of land and the subsequent resettlement of affected families.

3. REGULATORY FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

3.1 National environmental policy and legislation

65. Since the country's independence, the Republic of Uzbekistan has developed, revised and improved national environmental legislation, adopted new laws and regulations, developed programmes and action plans to address environmental issues and promoted sustainable use of natural resources. The country has adopted several subsidiary laws and legislation on environmental management and is a party to series of international and regional environmental agreements and conventions. The nature protection policy and the implementation of measures in the field of rational use of natural resources and environmental protection are based on the following basic principles:

✓ Integration of economic and environmental policies aimed at preserving and restoring the environment as a prerequisite for improving the living standards of the population;

✓ Transition from the protection of individual natural elements to the general and comprehensive protection of ecosystems;

✓ Responsibility of all members of society for environmental protection and biodiversity conservation.

3.2 Environmental Legislation

66. Nature protection issues under the project are regulated by the following legal acts:

- **Constitution**, articles 50, 54, 55, 93, 100. Article 55 of the Constitution of the Republic of Uzbekistan states: Land, its subsoil, water, flora and fauna and other natural resources are national treasures and are subject to rational use and protection by the State;
- **The Law "On Nature Protection"** of December 9, 1992 (updated on 18.04.2018) establishes the legal, economic and organizational framework for environmental protection, ensures sustainable development and certain principles, including the State Environmental Expertise (SEE). Article 12 of the Law "On Nature Protection" states: Residents of the Republic of Uzbekistan are obliged to use natural resources rationally, treat natural resources with care, and comply with environmental requirements. As stated in the law, in order to protect the climate from global changes, a business entity must comply with the restrictions on greenhouse gas emissions, as well as take measures to mitigate these emissions.
- **The Law on Water and Water Use** of 6 May 1993 (updated on 23 July 2018) provides for the rational use of water resources, protection of water resources, prevention and mitigation of negative impacts and compliance with national legislation; the Law provides for the responsibility of all natural and legal persons for the prevention of pollution of watersheds, reservoirs, snow and ice cover, glaciers, permanent snow cover with industrial, domestic and other wastes and emissions that may lead to the deterioration of swing State management of water protection and use is carried out through accounting, monitoring, licensing, control and supervision.
- **The Law "On the Protection and Use of Vegetation"** of December 26, 1997 (updated on September 21, 2016) regulates relations in the field of protection and use of vegetation (plants) growing in natural conditions, as well as wild plants grown for their restoration and genetic conservation;
- **The Law "On Protection of the Atmospheric Air"** of December 27, 1996 (updated on September 14, 2017) defines the issues of preservation of the natural state of the atmospheric air; legal regulation of the activity of state bodies, enterprises, institutions, organizations, public associations and citizens in the field of protection of the atmospheric air.
- **The Waste Act** 2002 г. (updated 10.10.2018) regulates waste management and empowers the State Environmental Committee to inspect, coordinate, assess the environment and establish certain parameters for those places where waste can be disposed of.
- **Law on Environmental Expertise** (2001) (updated on 14.09.2018) provides for mandatory examination of the impact on the environment and human health, and also serves as a legal basis for the examination;
- **The Law on Environmental Control** (2013) regulates relations in the field of environmental protection. The main objectives of environmental control are prevention, detection and suppression of violations of environmental legislation; monitoring of the environmental situation and factors that may lead to environmental pollution, irrational use of natural resources, threat to life and health of citizens.
- **The Law on the National Security Concept** (1997), provides the main structure for achieving environmental safety, etc.

- **The Law "On Protection of Agricultural Plants from Pests, Diseases and Weeds" (2000**) regulates relations connected with ensuring protection of agricultural plants from pests, diseases and weeds, prevention of harmful impact of plant protection means on human health and environment.

67. **Normative documents on nature protection, organization of workplaces, including on construction sites.** Many important aspects of public administration, use and protection of nature and agricultural plants are regulated, for example, by the Cabinet of Ministers through different bylaws:

- Additional measures to improve the beautification of Uzbekistan's population centres (No. PP-1045, 22 January 2009)
- On the approval of the rules for the organization of works on the improvement of residential areas in view of modern architectural and town-planning requirements (PKM № 59, 09.03.2009).
- "Procedure for the development and execution of draft standards for maximum permissible discharges of pollutants discharged into water bodies, including sewage" (RD118.0027719.5-91);
- "Procedure for granting permission for special water use (RD 118.0027714.6-92)
- State standard - Water quality. O'z DST 951:2011 - Sources of centralized domestic and drinking water supply. Hygiene, technical requirements and selection rules;
- "Temporary recommendations on control over groundwater protection in the Republic of Uzbekistan". State Committee on Nature Protection and Uzbekhydrogeology of the Republic of Uzbekistan, Tashkent, 1991
- Resolution of the Cabinet of Ministers "On Approval of the Regulation on State Environmental Control" (No. 49, 3.04.2002);
- SanPiN RUz № 0179-04 Hygiene standards. List of Maximum Permissible Concentrations (MPCs) of Pollutants in the Air of Residential Areas in the Republic of Uzbekistan, including Annex 1;
- SanPiN RUz No. 0267-09 Permissible noise level in the residential area, both inside and outside the buildings;
- SanPiN No. 0120-01 "Sanitary standards of permissible noise levels at workplaces";
- Sanitary Regulations and Norms No. 0122-01 "Sanitary Regulations on Local Vibration at Workstations";
- SanPiN RUz № 0088-99 Sanitary requirements for the development and approval of projects of maximum allowable discharges (MPD) of substances entering water bodies with waste water;
- SanPiN RUz № 0321-15 Hygienic classification of toxicity and hazard;
- "Regulation on the procedure of burial of toxic chemicals and other toxic substances, as well as protection and maintenance of special grounds" (registered with the Ministry of Justice under No. 2438 of 20.03.2013);
- Resolution of the Cabinet of Ministers of the Republic of Uzbekistan of 24.03.1995
- Resolution of the President of the Republic of Uzbekistan of 16.03.2017 NPP-2841
- Rules for the reception of industrial wastewater and the procedure for the calculation of compensation payments for supernormal discharges of pollutants into the municipal sewerage networks of cities and other localities of the Republic of Uzbekistan (Annex 1 to PCM № 11 of 2010);
- GOST-23941-79 "Noise. Measurement methods";
- "Methodical guidelines for measuring and hygienic assessment of noise at workplaces" No. 1844-78;
- SanPiN No. 0046-95 "Maximum permissible concentrations (MPC) of harmful substances in the air of the working zone";
- Procedure for the development and approval of design standards for maximum permissible concentrations in water bodies, including drainage water" (RD 118.0027719.5-91);
- Permit for special water use" (RD 118.0027714.6-92);
- Instruction on determining the damage caused to the national economy by groundwater pollution". (PP 118.0027719.5-91) (PARAS. 118.0027714.47-95);
- Sanitary Regulations No. 0289-10. Sanitary rules and hygienic requirements in the organization of construction and construction;
- Sanitary rules and standards for the maintenance and improvement of residential areas in the conditions of the Republic of Uzbekistan (Sanitary Rules and Regulations No. 0329-16)
- Temporary Recommendations on Groundwater Protection Control in the Republic of Uzbekistan". State Committee on Natural Resources and Uzbek Hydrogeology of the Republic of Uzbekistan, Tashkent, 1991

68. **International cooperation and global and regional agreements.** In the context of the global environment, Uzbekistan is a party to following international conventions:

- Convention on Climate Change;
- The Convention on Biological Diversity;
- Convention to Combat Desertification;
- Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (05/26/1993);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (12/22/1995);
- Convention concerning the Protection of the World Cultural and Natural Heritage (12/22/1995);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (07/01/1997);
- Bonn Convention on the Conservation of Migratory Species of Wild Animals (05/01/1998);
- Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat (08/30/2001).

3.3 National requirements for environmental and social assessment

69. The National ESA procedure is regulated by the Law on Environmental Expertise (2000), updated on 14.09.2017 and the Cabinet of Ministers Resolution No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism ". In accordance with Article 3 of the above-mentioned law, an environmental impact assessment is carried out in order to identify:

- Compliance of planned economic and other activities with environmental requirements at the stages preceding the decision on their implementation;
- The level of environmental hazard from planned or ongoing economic and other activities that may have or have had a negative impact on the environment and public health;
- Adequacy and validity of measures provided for environmental protection and rational use of natural resources.

70. The special authorized state body in the field of state environmental expertise is the State Committee on Ecology and Environmental Protection (Goskomekologiya). The organizational structure of the State Committee on Ecology and Environmental Protection of the Republic of Uzbekistan is discussed in detail in Section 3. The main organization responsible for the state environmental expertise is the Glavgosexpertiza SCEEP (Main state expertise) (Figure 1.). SUE “Center of State Environmental Expertise" carries out state eco-expertise of EIA of the objects of economic activity belonging to I and II categories of environmental impact (high and medium risk). The State Unitary Enterprise "Center of State Environmental Expertise" of the Republic of Karakalpakstan and regions carry out environmental impact assessment of economic activity objects belonging to III and IV categories of environmental impact (low risk and local impact). The Regulation on the Main state expertise describes in detail the procedure for organizing and conducting the SEE (Annex 6) and the procedure for conducting the SER (Annex 6).

71. Environmental impact assessment is a procedure that includes three stages of the EIA (Figure 1):

72. **Step 1: The Draft Environmental Impact Statement** (DEIS) should be conducted at the planning stage of the proposed project prior to the allocation of development funds and contain the following sections:

- environmental conditions prior to the beginning of the planned activity, population of the territory, land development, analysis of environmental characteristics;
- a situational plan indicating the existing recreational zones, settlements, irrigation, reclamation facilities, farmlands, power lines, transportation, water supply, gas pipelines and other information about the area;
- proposed (planned) main and auxiliary facilities, used machinery, technology, natural resources, materials, raw materials, fuel, analysis of their environmental impacts, environmental hazards of the products;
- expected emissions, discharges, wastes, their negative impact on the environment and methods of neutralization;
- warehousing, storage and utilization of wastes;
- the analysis of alternatives to planned or ongoing activities and technological solutions from the perspective of nature protection, taking into account the achievements of science, technology and best practices;

- organizational, technical, technological solutions and measures that exclude negative environmental consequences and reduce the environmental impact of the facility;
- analysis of emergency situations (with an assessment of their probability and a scenario to prevent their negative consequences);
- forecast of changes in the environment and environmental consequences as a result of the implementation of the object under the expertise;

73. **Step 2: Preparing the Environmental Impact Statement (EIS),** - the need for such step is decided at Stage 1 and Glavgosexpertiza shall indicate that additional researches or analyses are needed. The EIS shall be submitted to the Glavgosexpertiza prior to approval of the Project Feasibility Study, prior construction activities. The application shall contain the following:

- assessment of ecological problems of the selected site based on the results of engineering and geological surveys, model and other necessary studies;
- ecological analysis of the technology in relation to the identified problems of the site;
- results of public hearings (if necessary);
- reasoned studies of environment protection measures that prevent negative consequences of implementation of the object of examination;

74. **Step 3: Preparing the Declaration of Environmental Effects** (**DEF**) is the final step in the SEE process and should be made prior to project implementation. Such documents are necessary only for projects with significant environmental and social impacts. Main sections of the DEF are the following:
- adjustment of design decisions and other measures taken following the review of the draft SCEEP conclusion on the environmental impact, as well as proposals made during the public hearings;
- environmental standards regulating the activities of the object of expertise;
- requirements to the organization of works and implementation of measures for environmental support of the facility operation;
- main conclusions on the possibility of conducting business activities.

75. **Project Categories.** According to the Cabinet of Ministers Decree No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism ". All types of environmental activities are divided into 4 categories with different degrees of impact:
- Category I - high risk of environmental impact (SEE is conducted by the SUE “Center of State Environmental Expertise" within 20 days, all stages of the EIA are required);
- Category II - "Average risk of environmental impact" (SEE is conducted by the State Environmental Expertise Center within 15 days, all stages of the EIA are required);
- Category III - "low risk of impact" (SEE is conducted by the regional branches of the SUE Center of State Environmental Expertise within 10 days, all stages of the EIA are required);
- Category IV - "minor impact, local" (SEE is conducted by regional offices within 5 days, only the first phase is required, the SEI Project.

76. All other projects that do not fall into different categories are considered as projects that do not have an impact on the environment and do not require state environmental expertise and environmental licenses.

77. According to point 24 "SEE regulations", the positive conclusion of SEE is a mandatory document for the opening of financing by banking and other credit institutions and the execution of legal entities and individuals of the implementation of the object of state environmental impact assessment. The SEE conclusion is valid for three years from the date of its issue. SEE conclusion is sent to the relevant district (city) inspectorates for ecological and environmental control. The EIA procedure for this project is described in more detail in Section 8 of this document.

Figure 1. Procedure for organizing and conducting environmental and social impact assessment

Stage 1	Customer (or trustee)	Submits to the Center documentation in electronic or paper form on the carried out and planned economic activities.	As needed...
Stage 2	Centers of State Environmental Expertise of the State Committee on Ecology, the Republic of Karakalpakstan, regions and Tashkent	Acceptance and registration of documents by a specialist of the Center for Complexity of Documents with subsequent preparation and submission of the contract for payment of state environmental expertise	During one day.
Stage 3	Customer (or trustee)	Payment for the SER	Within five days (in case of absence within 90 calendar days of payment materials are subject to return of the customer
Stage 4	Expert of center	Conducting state ecological - and preparation of draft conclusion on objects of I, II, III, IV categories of environmental impact.	After the payment for the state environmental expertise on: I category - up to 20 days; II category - up to 15 days; III category - up to 10 days;
Stage 5	Customer (or trustee)	After conclusion	Implementation of the object

78. All other projects that are not included in the various categories are considered to be projects that do not have an impact on the environment and do not require a State Environmental Expert Review and any environmental licenses.

79. **Public participation in ESA process**. The Constitution of the Republic of Uzbekistan (arts. 50.55) lays the foundation for the participation of citizens and public associations in environmental management. Law of the Republic of Uzbekistan of 09.12.1992. (updated on 18.04.2018) "On nature protection" in Articles 12-13 regulates the right of citizens to unite in public organizations for nature protection, to request and receive information about the state of the environment and measures taken for its protection, as well as the authority of NGOs established. Legislation in the field of ecology and environmental protection provides for public participation as a) an individual citizen or a group of citizens; b) through citizens' self-governance bodies and c) through non-governmental non-profit organizations.

80. Direct participation of non-commercial environmental protection organizations is envisaged in the course of EE of documentation for construction of new and reconstruction of existing facilities for management purposes. In particular, Article 27 of the Law of the Republic of Uzbekistan "On Nature Protection", as well as Article 23 of the Law of the Republic of Uzbekistan of 2018. " The SEE law enables NGOs and citizens to carry out public EE in any area of activity that needs to be justified by independent groups of specialists at the initiative of the NGOs themselves and at their own expense or on a voluntary basis. The public expertise may be carried out independently of the state ecological expertise. It is prohibited to hinder the implementation of public EE. It is established that the conclusion of the public EE is of a recommendatory nature.

81. In addition, during the SEE of the organization-customers of its implementation are obliged to publish an announcement of the state environmental impact assessment and information on its results in the media, in cases where the authorized bodies include the object of construction in the list of important objects. This is required only for Category I and II projects.

3.4 The requirements of the World Bank's safeguards policies

3.4.1 Main requirements of the Environmental and Social Assessment

82. Per the WB safeguards policies Environmental and Social Assessment (ESA) is a process of the pre-implementation stage which evaluates a project's potential environmental and social risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, sitting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. ESA is mandatory for projects, which may potentially have negative impacts. Furthermore, a well-organized public participation is mandatory in all the stages of the process. In the case when the projects activities to be financed are not identified at the design stage, the Bank applies an Environmental and Social Management Framework (ESMF) which should: provide details on procedures, criteria and responsibilities for subproject screening, preparing, implementing and monitoring of subproject specific ESIAs. The ESMF should also include Environmental Guidelines for proposed subprojects, containing an assessment of potential impacts and generic mitigation measures to be undertaken for identified subprojects in all stages - from identification and selection, through the design and implementation phase, to the monitoring and evaluation of results.

3.4.2 World Bank Safeguards Policies and their requirements

83. There are 10 key World Bank safeguards policies that aim to identify, minimize and mitigate potentially adverse environmental and social impacts of Bank-financed projects. The requirements of these policies and their implications for the project are presented in Table 1 below.

Table 1: World Bank safeguards policies and their relevance to the project

SAFEGUARDS POLICIES	TRIGGERED	RELEVANCE
Environmental Assessment (OP/BP 4.01) This Policy aims to ensure that projects proposed for Bank financing are environmentally and socially sound and sustainable; to inform decision makers of the nature of environmental and social risks; to increase transparency and participation of stakeholders in the decision-making process.	Yes	This OP is triggered as the Component 1 of the project will include civil works in street upgrading, recreational services like parks and other public spaces improvements, intra city transport, social, drainage, water supply, solid waste management, schools, hospitals upgrading which might generate a series of various environmental and social impacts. These impacts would be associated with increased pollution with wastes, noise, dust, and air pollution, health hazards and labor safety issues, etc., due to civil works. All of them are expected to be typical for small scale construction/rehabilitation works, temporary by nature and site specific, and can be easily mitigated by applying best construction practices and relevant mitigation measures. To address these risks and impacts it was prepared an ESMF aimed at specifying the set of mitigation, monitoring, and institutional responsibility measures to be taken during the project implementation to eliminate adverse environmental and social impacts, offset, or reduce them to acceptable levels. The ESMF also suggests a series of EA capacity building activities which will be supported by the project. Per WB requirements the draft document has been disclosed and consulted in the participating regions.
Natural Habitats (OP/BP 4.04) This Policy aims to safeguard natural habitats and their biodiversity; avoid significant conversion or degradation of critical natural habitats, and to ensure sustainability of services and products which natural habitats provide to human society.	No	Since the project is focused on existing infrastructure in urban areas no natural habitats will be impacted.
Forestry (OP/BP 4.36) This Policy is to ensure that forests are managed in a sustainable manner; significant areas of forest are not encroached upon; the rights of communities to use their traditional forest areas in a sustainable manner are not compromised.	No	The project will be implemented in non-afforested rural areas and thus no impacts on the forests status are expected.
Pest Management (OP 4.09) This policy is to ensure pest management activities follow an Integrated Pest Management (IPM) approach, to minimize environmental and health hazards due to pesticide use, and to contribute to developing national capacity to implement IPM, and to regulate and monitor the distribution and use of pesticides.	No	No pest management issues are expected since the investments will target rural infrastructure and will not involve infrastructure related to agricultural activities
Physical Cultural Resources (OP/BP 4.11) This policy is to ensure that: Physical Cultural Resources (PCR) are identified and protected in World Bank financed projects; national laws governing the protection of physical cultural property are complied with; PCR includes archaeological and historical sites, historic urban areas, sacred sites, graveyards, burial	No	The environmental screening process will screen for the presence of physical cultural resources and in the case such subprojects will be identified they will be excluded from financing by the project. The ESMF will provide guidance with regard to chance find procedures and relevant stipulations will be included in all works contracts involving eatrth moving.

SAFEGUARDS POLICIES	TRIGGERED	RELEVANCE
sites, unique natural values; implemented as an element of the Environmental Assessment		
Indigenous Peoples (OP/BP 4.10) IP – distinct, vulnerable, social and cultural group attached to geographically distinct habitats or historical territories, with separate culture than the project area, and usually different language. The Policy aims to foster full respect for human rights, economies, and cultures of IP, and to avoid adverse effects on IP during the project development.	No	There are no IPs in the country.
Involuntary Resettlement (OP/BP4.12) This policy aims to minimize displacement; treat resettlement as a development program; provide affected people with opportunities for participation; assist displaced persons in their efforts to improve their incomes and standards of living, or at least to restore them; assist displaced people regardless of legality of tenure; pay compensation for affected assets at replacement cost; the OP. Annexes include descriptions of Resettlement Plans and Resettlement Policy Frameworks	Yes	The policy is triggered due to the potential need for small scale land acquisition (temporary or permanent), restriction of access and economic resettlement in relation to activities under Component 1 to upgrade and invest in rural infrastructure. The project areas are characterized by significant levels of social and economic activity of an rural setting.
Safety of Dams(OP/BP4.37) This Policy is to ensure due consideration is given to the safety of dams in projects involving construction of new dams, or that may be affected by the safety or performance of an existing dam or dams under construction; important considerations are dam height & reservoir capacity	No	The project activities will be implemented inside the rural areas and will not be dependent on the functionality of dams.
Projects on International Waterways (OP/BP7.50) The Policy aims to ensure that projects will neither affect the efficient utilization and protection of international waterways, nor adversely affect relations between the Bank and its Borrowers and between riparian states	Yes	OP 7.50 is triggered because the proposed activities will use water from 'international waterways', and will discharge waste waters in the Syrdarya or their tributaries. However, the activities to be financed would be limited to rehabilitation, modifications and minor additions or alterations to existing schemes in ways which would not increase the amount of water abstracted or lead to appreciable impact on the water sources or local hydrological regime. As these investments are of rehabilitation nature and have positive impacts, the project team has obtained he "Exclusion to the notification of riparian states" was prepared and approved by the Bank Legal Department and ECA Region RVP on August 30, 2019
Disputed Areas (OP/BP7.60) The Bank may support a project in a disputed area if governments concerned agree that, pending the settlement of the dispute, the project proposed for one country should go forward without prejudice to the claims of the other country	No	The project is focused on rural areas in Fergana region of Uzbekistan. No disputed areas involved.
Disclosure Policy (BP17.50) supports decision making by the borrower and Bank by allowing the public access to information on environmental and social aspects of projects and has specific requirements for disclosure	Yes	The draft ESMF was disclosed on August 16, 2019 and consulted in the country before project appraisal on August 27-29, 2019 and will be also disclosed on the WB website.

3.4.3 WB Project Categories and Screening

84. In order to identify the most important potential environmental problems at the stage of project selection for financing, they are classified according to the degree of their environmental and social impact. The purpose of the classification is to decide the nature and extent of the environmental and social assessment to be undertaken in connection with the proposed loan or credit.

85. The level of detail of the environmental and social assessment depends on the scale and environmental impact of the proposed works. According WB Operational Policy (OP 4.01), all projects are classified into categories A, B and C, considering the level of their potential environmental and social impact:

- *Category A.* The proposed project is categorised as Category A if it is likely to have a significant adverse impact on the environment (depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts). These consequences are generally irreversible, sensitive, diverse, cumulative, or precedent-setting, and can affect areas outside of project sites or facilities. For example, Category A projects have one or more of the following attributes: large-scale conversion or degradation of natural habitats; extraction, consumption, or conversion of significant quantities of forest, mineral, and other natural resources; direct release of pollutants leading to air, water, or soil degradation; production, storage, use, or disposal of hazardous materials and wastes; measurable changes in the hydrological cycle; and risks associated with proposed pesticide use. Typical examples in the context of this project include: the construction of many new treatment facilities, a new landfill, and the reconstruction of existing landfills with significant environmental impacts.
- *Category B.* The proposed project is categorized as Category B if the potential environmental impacts, usually site specific, are reversible in nature; less damage than in Category A sub-projects, and for which mitigation measures can be developed more easily. Category B projects sometimes differ only in scale from Category A projects of the same type. For example, large irrigation and drainage projects are usually classified as A; however, small-scale projects of the same type can be classified as B. The same can be true for small-scale, relatively clean (with gas or light diesel oil combustion) thermal power plants, micro-hydropower plants and small sanitary landfills. Similarly, projects that finance the rehabilitation or maintenance of existing infrastructure may have adverse effects, but are likely to be less significant than a Category C project, and will be classified as B. Typical examples include: rehabilitation or construction of water supply and/or sewerage facilities, wastewater treatment plants, wastewater treatment plants, which do not include expansion or new construction, construction of small-scale wastewater treatment plants, road rehabilitation, etc.
- *Category C.* The project falls into category C if it is likely to have minimal or no adverse environmental impacts. For example, technical assistance projects in institutional development, computerization and training fall under category C.

86. The Bank reviews the findings and recommendations of the EA to determine whether they provide an adequate project basis for the Bank's financing. If the borrower has completed or partially completed an EA prior to the Bank's participation in the project, then the Bank reviews the results of the EA to ensure consistency with this policy. The Bank may, if necessary, require additional environmental assessment, including public consultation and disclosure.

3.5 Comparison of national and World Bank requirements for environmental assessment

87. The main provisions of the National ESA rules and procedures are generally similar to the requirements of the World Bank, but there are several important differences. These differences relate to the following issues:

- The project environmental categorization;
- The requirements for and the structure of the Environmental and Social Management Plan of the Project (ESMP);
- Requirements in terms of disclosure of the Environmental and Social Assessment documents and their public consultation.

3.5.1 Differences with regard to project environmental categories

88. The environmental impact assessment system in the counyry is based on te SEE requirements , developed more than 20 years ago. The SEE is regulated by the Law (No. 73-II dated 05/25/2000) on

Environmental Expertise and the Decree of the Cabinet of Ministers on the Approval of the Provision on the State Environmental Expertise (2018). As specified above, according these documents there are 4 project Categories:

- Category I (high risk),
- Category II (medium risk),
- Category III (low risk) and
- Category IV (local impact).

89. Taking into account different project categorization was decided the higher requirements of the WB shall be applied. This is mainly for deciding on Category C projects - national legislation on EA is not applicable for small-scale subprojects, including construction and reconstruction of various buildings. In such cases, will be applied the criteria of the World Bank:

- Category A (World Bank) - Category I (Uzbekistan)
- Category B (World Bank) - Category II (Uzbekistan)
- Category B (World Bank) - Category III (Uzbekistan)
- Category C (World Bank) - Category III (Uzbekistan)
- Category C (World Bank) - Category IV (Uzbekistan).

3.5.2 Differences in terms of ESMP

90. According to national legislation, in course of ESIA development for each project, compliance with decreasing/mitigation measures is necessary, but there is no obligation to develop/implement a special Environmental and Social Management Plan (ESMP). According to the WB requirements which will be applied for this project, this plan will include avoidance and mitigation measures, a monitoring plan and reporting, an organizational structure for the ESMP implementation, as well as measures to strengthen the capacity and associated necessary costs.

3.5.3 Differences in terms of EA information disclosure and public consultation activities

91. According to the national legislation, disclosure of information on EA and public consultations are mandatory only for categories I and II. Furthermore, in accordance with the SEE Law, it is possible to conduct a public environmental expertise at the initiative of an NGO and residents in any area and for all types of project categories. Public environmental expertise can be conducted independently of state environmental expertise. The conclusion of public environmental expertise is advisory. According to the World Bank's safeguard policy on EA, a borrower is responsible for conducting at least one public consultation for all category "B" projects to discuss issues that need to be addressed in an ESMP or to discuss the very draft of the ESMP. These requirements will be followed during implementation of this project.

3.6 Applicable environmental standards.

92. Sub-projects requiring an ESIA should include mitigation measures to ensure compliance with the environmental standard of operation. If both Uzbekistan and World Bank standards exist for a specific mitigation measure, then the strictest of the two standards is used. For example, if the environmental problem is a high noise level and the World Bank noise standard is more stringent than that of Uzbekistan, then the selected mitigation measure should meet a more stringent World Bank standard.

93. The Table 2 provides the Summary of the comparative analysis of WB and National ESA requirements and the ways on harmonization of the national one with the WB OPs.

Table 2: Comparative table between WB safeguards requirements and Uzbek national environmental legislation

<table>
<tr><th>ASPECT</th><th>WORLD BANK</th><th>NATIONAL UZBEK REGULATIONS</th><th>HARMONIZED FRAMEWORK</th></tr>
<tr><th colspan="4">ENVIRONMENTAL SAFEGUARDS REQUIREMENTS</th></tr>
<tr><td>Environmental Policy and Regulations</td><td>There are key 10 Environmental and Social World Bank Safeguard Policies and World Bank Group Environmental, Health, and Safety General Guidelines (EHS)</td><td>Environmental assessment and permitting procedure in Uzbekistan is set out in the following laws and regulations:
The Law on Nature Protection (1992);
The Law on Environmental Expertise (2000), and
Decree of Cabinet Ministries (DCM) # No. 541 of 07.09.2020 (with amendments # 152 (2005) on “Regulation on Environmental Expertise” (2001)
Environmental legislation base consists of the more than 100 laws, bylaws and other regulative documents, such as sanitarian norms and rules, standards and etc.</td><td>In most of the cases national requirements and standards for environment quality are match with WB EHS standards. However, there are some parameters when national and WB requirements and standards are different. In such cases more strictly ones will apply for the project.</td></tr>
<tr><td>Screening and Categorization</td><td>WB carries out project screening and categorization at the earliest stage of project preparation when sufficient information is available for this purpose.
In the case where World Bank and national categorization requirements differ, the more stringent requirement will apply. This refers mostly in the case of deciding about Category C subprojects - the national EA legislation doesn’t refer to small scale activities, including construction and rehabilitation of various buildings. In these cases the client will apply the WB criteria.
Categorization into Category A, B, C, FI
The project categorization depends on location. There are several locations which should be considered while deciding to qualify the project as category “A”: in or near sensitive and valuable ecosystems, archeological heritages, densely populated areas and etc.</td><td>In Uzbekistan the EIA system is based on the State Ecological Expertise, which is regulated by Law # 73-II On Ecological Expertise (25.05.2000) and by DCM # No. 541 of 07.09.2020.
The category of the project is defined in accordance with Appendix 1 to RCM # 541.
The Regulation stipulates 4 categories for development:
Category I (High Risk),
Category II (Middle Risk),
Category III (Low Risk),
Category IV (Local Impact).
If the activity is not included into the Appendix 1 to the regulation, EA is not conducted.
Location of the potential project is not considered during categorization</td><td>WB and Uzbekistan project categorization could be harmonized by accepting the following principle:
<table>
<tr><th>WB (A,B,C)</th><th>Uzbekistan (I-IV)</th></tr>
<tr><td>Category A;</td><td>Category I</td></tr>
<tr><td>Category A</td><td>Category II in same cases[8]</td></tr>
<tr><td>Category B</td><td>Category II (mostly)</td></tr>
<tr><td>Category B</td><td>Category III-IV</td></tr>
<tr><td>Category C</td><td>Not included in the Attachment 1.</td></tr>
</table>
All potential sub-projects will be reviewed on location in regard to sensitive areas. In this case WB categorization will be applied and such sub-projects will not be included into the program</td></tr>
</table>

[8] Some of the projects belonged to Category II may have impacts which WB categorization assesses as significant. Among such projects – construction of thermo power plant with capacity 100-300 MW, water reservoir with capacity up to 200 mln m^3, mining production and etc.

ASPECT	WORLD BANK	NATIONAL UZBEK REGULATIONS	HARMONIZED FRAMEWORK
Environmental Impact Assessment Report	In accordance with OP 4.01, EIA processes report for category A projects (Category A sub-projects are not financed under the project) includes the following chapters: (i) Executive Summary, (ii) Policy, legal and administrative framework, (iii) Project description, (iv) Baseline data, (v) Environmental Impacts, Analysis of alternatives, and (vi) Environmental Management Plan. Information on public consultations is provided in Appendixes. For the category B project the scope of EA and report should be narrow than for category A projects.	DCM # No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism" defines content of EIA report for project belonged to categories I-III. The report has to include: (i) baseline data, (ii) project description, (iii) anticipated environmental impacts, (iv) waste management, (v) analysis of emergency situation, and (vi) and anticipated changes due to project implementation. Information on applicable laws and regulation usually is presented in "Introduction" part. For the projects category IV, the EIA report more simplified.	EISA prepared for category B sub-projects under this project should be developed in accordance with national requirements, fulfilled with WB requirements presented in this ESMF document and with WB information on public disclosure requirements.
ESMP	ESMP should be prepared and should specify, along with the proposed mitigation activities, a monitoring plan and reporting requirements, institutional arrangements for ESMPs implementation. For sub-projects category B with low impact ESMP checklist has to be filled.	National legislation on EA requires to identify possible impacts, but it does not require a preparation of separate EMP or any other environmental documents/plans/checklists. There is no requirements on environmental monitoring with specification of monitoring parameters and location.	Based on results of sub-projects screening ESMP, ESMP checklist will be developed in accordance with Annex 11 of this document
Public Consultations and Disclosure	The Sub-borrower is responsible for conducting at least one public consultation for all Category B projects to discuss the issues to be addressed in the EMP or to discuss the draft EMP itself.	Conduction of public consultation is not mandatory. It could be conducted, if required at the time of the ZVOS (second stage of EA). Advertisement on conduction of public consultation have to be announced in the media.	Public consultations will be carried out with the stakeholders, affected people, NGOs for all Category B subprojects. Questions and concerns raised during public consultations will be reflected in ESMP documents. Environmental Executive Summary in local language will be published prior conduction PC.
Requirements on Physical Cultural Resources	WB OP 4.11 requires development of Physical Cultural Resources Management Plan as part of ESIA, which includes mitigation measures, provisions for chance finds, capacity building program, monitoring and reporting system	Law of RUz "On protection and usage of cultural heritage objects" states that a project's design for rehabilitation of cultural heritage needs to be approved by the Ministry of Culture and Sport. However, there are no special requirements /measures for	The project will not support any activities which might have impacts on PCRs, - based on the screening such subprojects will be excluded from project financing.

ASPECT	WORLD BANK	NATIONAL UZBEK REGULATIONS	HARMONIZED FRAMEWORK
		works which are conducting near cultural heritages.	

4. NATIONAL INSTITUTIONAL FRAMEWORK FOR ESA

94. The State Committee on Ecology and Environmental Protection (SCEEP) is the main regulatory body in the field of ecology, environmental protection, rational use and reproduction of natural resources (Fig. 2). It reports directly to the Cabinet of Ministers and is responsible for coordinating the activities of other national authorities in the field of environmental protection and natural resources at the central, regional and district levels. The activity of the Committee is regulated by the Resolution No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism " of the Cabinet of Ministers.

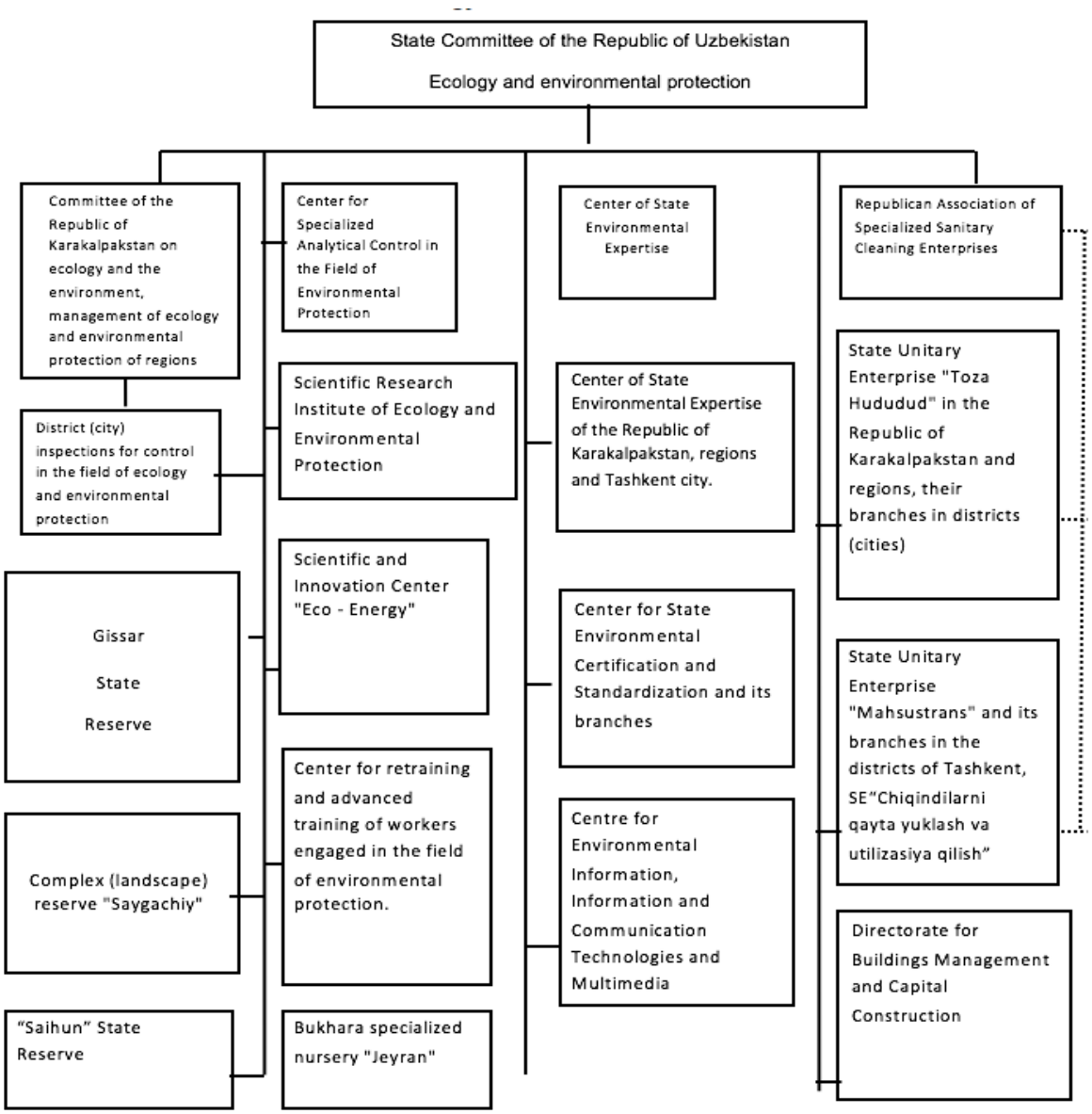


Figure 2. Organizational structure of the State Committee of the Republic of Uzbekistan on Ecology and Environmental Protection

95. The SCEEP is responsible for the protection of environmental and natural systems. It oversees the national protected area system, can initiate liability/damage actions, and administers an environmental fund that receives pollution charges and fines and supports mitigation measures. The SCEEP also issues permits for emissions of polluting discharges and may prohibit projects and construction activities that do not comply with (international) legislation.

96. The State Ecological Expertise (SEE) is regulated by the Law on Ecological Expertise (2000), updated on 14.09.2017 and the Cabinet of Ministers Resolution No. 541 of 07.09.2020: "On further improvement

of the environmental impact assessment mechanism". In accordance with Article 3 of the above-mentioned law, an environmental impact assessment is carried out in order to identify:

- Compliance of planned economic and other activities with environmental requirements at the stages preceding the decision on their implementation;
- The level of environmental hazard from planned or ongoing economic and other activities that may have or have had a negative impact on the environment and public health;
- Adequacy and validity of measures provided for environmental protection and rational use of natural resources.

97. The structure of the SCEEP has the form of a central body in Tashkent, with regional (oblast) and local (district) branches and institutions for scientific and technical support. Organizations at the regional level have the same structure as those at the national level. The SEE shall be carried out by the following specialized expert units of the State Environmental Committee:

- State Unitary Enterprise "Center of State Ecological Expertise" Goskomekologii, hereinafter referred to as "GUP Center of State Ecological Expertise";
- State Unitary Enterprise "Center of State Ecological Expertise" Republic of Karakalpakstan;
- State Unitary Enterprises "Center of State Ecological Expertise" of regions and Tashkent city.
- Other state bodies within the administrative structure of Uzbekistan with relevant environmental responsibilities are:
- The Ministry of Agriculture and the Ministry for Water Resources are the main republican organizations responsible for the development of the agricultural sector and water respurces management. The water sector is organized at the level of basin authorities and at the oblast level. There are two regional institutions for water allocation: the Water Association (WA) for the Syrdarya River Basin and the Amudarya River Basin
- State Committee on Land Resources, Surveys, Cartography and State Cadastre (or Goskomgeodezkadastr)
- The State Committee for Geology and Mineral Resources (or State Committee for Geology and Mineral Resources) of the State Committee for Geology and Mineral Resources of the Republic of Uzbekistan conducts geological study of subsurface resources in order to strengthen and expand the mineral resource base of the mining and processing industry, and ensures intersectoral coordination of activities related to the geological study of subsurface resources in Uzbekistan. The Committee exercises state control over the geological study of subsurface resources by all enterprises and organizations regardless of their form of ownership, creates and ensures the functioning of the data bank on the geological structure of subsurface resources and mineral resources of the Republic, and maintains the state balance on mineral resources and other resources in order to determine the conditions for their economic and rational use.
- The Hydrometeorological Service Center (or UzHydromet) carries out systematic observations of air, soil and surface water, as well as oversees the formation and development of catastrophic hydrometeorological phenomena, and provides state and economic management bodies. It also provides citizens with information on actual and expected hydrometeorological conditions, climate change, the level of environmental pollution, and emergency information on the occurrence of dangerous and natural hydrometeorological phenomena; it carries out fundamental and applied research in the field of hydrometeorology, climate change and environmental pollution.
- The Ministry of Health (or MHUz) develops and approves sanitary rules and hygienic norms, carries out state sanitary supervision over their observance, as well as methodical supervision over the work of sanitary and epidemiological services, regardless of their departmental subordination.
- State Inspectorate for Supervision of Exploration, Safety of Operation of Industry, Mining and Utilities (or Sanoatgeokontekhnazorat).
- Sanoatgeokontekhnazorat (State Inspectorate for Supervision of Geological Study of Subsoil, Safe Operation in Industry, Mining and Utilities) works together with the State Committee on Ecology and Environmental Protection of the Republic of Uzbekistan and exercises control in the field of geological study, use and protection of mineral resources.

5. BASELINE INFORMATION

98. The project will support rural infrastructure development in 21 following districts:
1. in Andiajn region: Boz, Bulakbashi, Marhamat, Ulugnar and Pakhtaobod districts;
2. in Namangan region: Chartak, Chust, Mingbulak, Yangikurgan and Pop districts;
3. in Fergana region: Yazyavan, Furkat, Kushtepa, Sokh districts;
4. in Syrdarya region: Boevut, Sardoba and Hovos districts
5. in Jizzakh region: Bakhmal, Zomin, Forish and Yangiobod districts.

99. The unique feature of the Fergana Valley is the scarcity of land for agriculture and urban development. Main part of rural population is involved in agriculture and land is of great value. According to survey (June 24-28, 2019) in selected mahallas the population prefers "land for land" option. This is subject for thought which should be considered during the technical design development and preparing resettlement plans.

100. The Fergana Valley is a most populous place in Central Asia with a highest density of population in some parts of Andijan and Namangan regions exceeding 600 people per square km. The distribution of rural settlements is dependent on water resources for agriculture being the main activity of rural population in project sites. In plains the primary crops are cotton, wheat, vegetables and fruits which require intensive irrigation. In the foothills and mountainous sites population is involved in stock rising. The products of agriculture are not processed in rural settlements of the project area. The business and services are not well developed. The Social infrastructure does not meet demands of rapidly growing rural population. The main issue is lack of portable drinking water because of updated water supply system which was constructed on 1970s. The detailed information about population of the project area along with the summary of social and economic indicators of selected project sites are given in Annex 1 and 2, while about sub-projects suggested by citizen of visited makhallas as well as on main environmental problems (on June 24-28, 2019) in Annex 3 and Annex 4.

101. A brief description of the natural, climatic and socio-economic conditions of the project areas along with the identified most social and economic needs and priority environmental problems is presented below.

5.1 Andijan region

102. Andijan region is divided into 14 districts, of which 3 districts are the objects of research (Table 3)

Table 3: Lower administrative-territorial units of the Andijan region

Map numbers	District	Center	Consist[1]
1	Altynkul district	Altynkul	11 urban settlements (us), 8 rural gatherings of citizens (rgc)
2	Andijan district	Kuiganyar	18 us, 9 rgc
3 4	Asaka district Balykchy district	Asaka Balykchy	City of Asaka, 4 us, 8 rgc 3 us, 9 rgc
5	Boz district	Boz.	3 us, 3 rgc
6 7	Bulakbashi district Jalakuduk district	Bulakbashi Jalakuduk	4 us, 5 rgc City of Jalakuduk, 7 us, 8 rgc
8	Izbaskan district	Paitug	City of Paitug, 4 us, 9 rgc
9 10	Kurgantepe region Marhamat district	Kurgantepa Marhamat	Cities of Karasu, Kurgantepa, 1 us, 5 rgc City of Marhamat, 10 us, 5 rgc
11	Pahtaabad district	Pahtaabad	City of Pakhtaabad, 3 us, 5 rgc
12	Ulugnar district	Akaltyn	1 r us , 4 rgc
13	Khojaabad district	Khojaabad	Khojaabad city, 5 us, 4 rgc
14	Shahrikhan district	Shahrikhan	City of Shahrikhan, 3 us, 12 rgc
	Andijan city Khanabad city		1 us 1 rgc

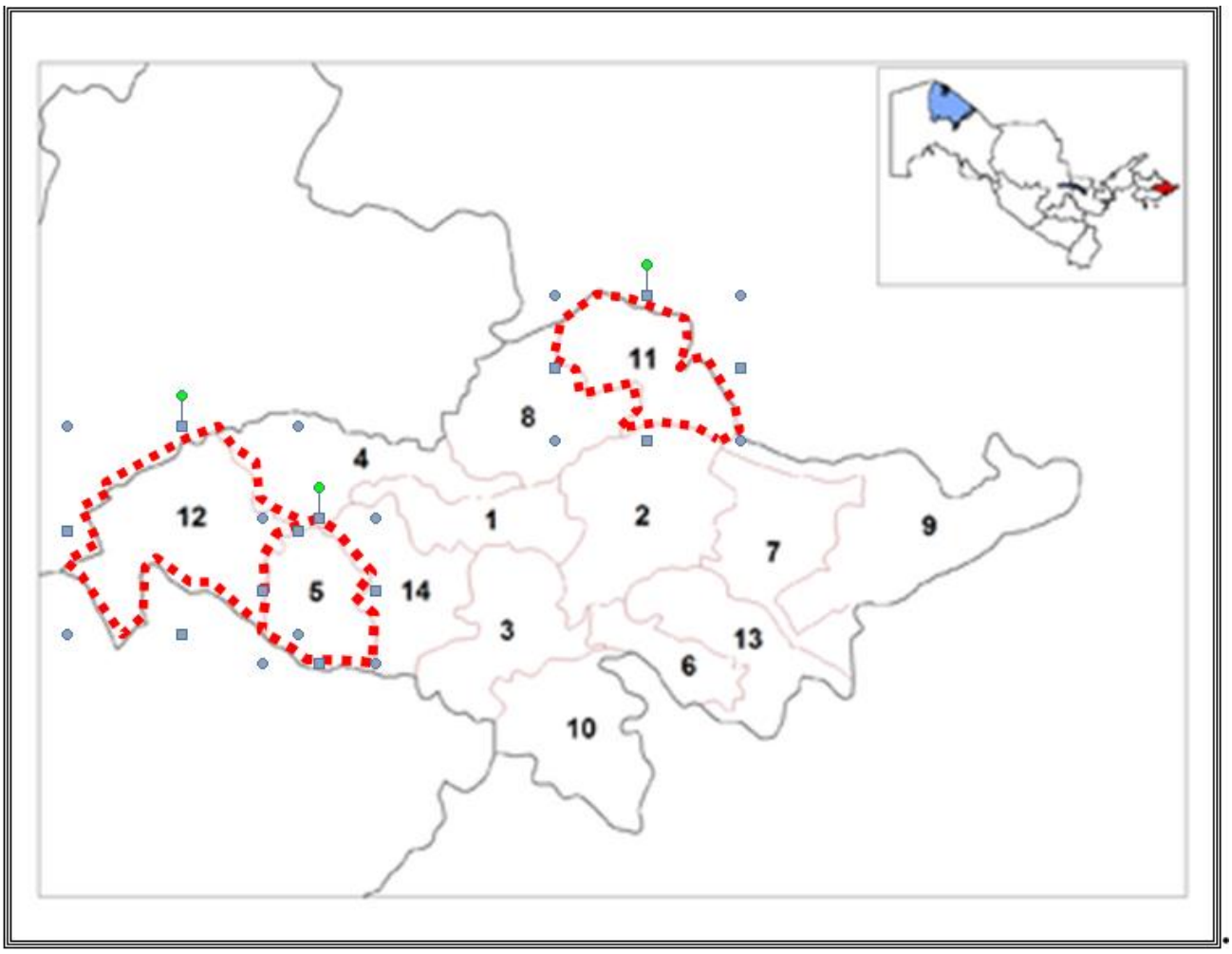


Figure 3. Location of the surveyed districts of Andijan Region: 5 -Boz district (Sarbon MCA), 11 - Pakhtaabad district (Andijon MCA), 12 - Ulugnar district (Oqtom MCA).

103. Territorially, the Andijan region is considered to be the most eastern territory of the Republic of Uzbekistan, the northeastern, eastern and southeastern borders of which are the state borders with Kyrgyzstan, in the figure it is marked in yellow (Fig. 3). The north-western, western and south-western borders are the regional borders with Namangan and Fergana regions and are marked in red in the figure.

104. ***Relief.*** The area has diverse terrain. The western part is flat and hilly with absolute altitudes of 395-400 meters above sea level. In the middle part of the area there is the Teshiktash Adyr, which has a submeridional direction. Absolute altitude levels here vary from 610 to 800m. The eastern part of the region is the highest, adjacent to the mountain ranges of Kyrgyzstan. The altitude ranges from 730m to 1200m above sea level. Numerous sai (mountain small rivers), originating from the mountains, form cones of removal with a peculiar relief. The largest of them are the removal cones of Mailis, Akbura, Aravansay (Fig.4).

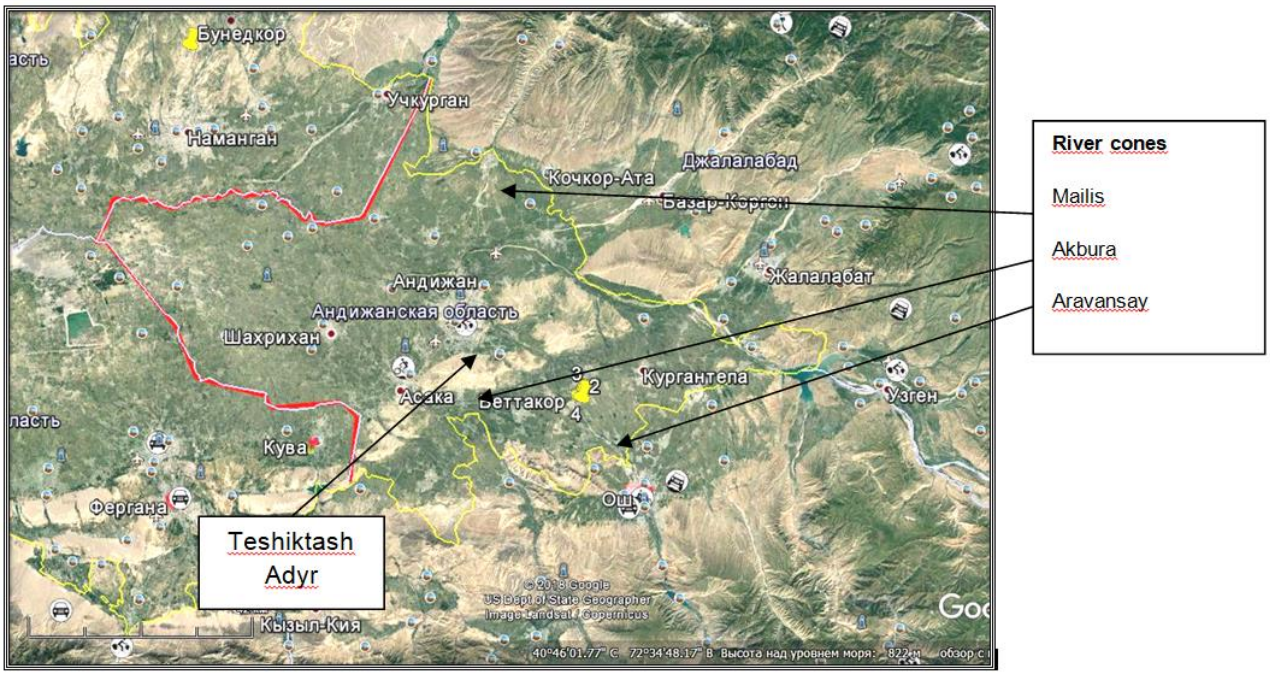


Figure 4. Regional (red) and national (yellow) boundaries of the Andijan region and landforms of the study area.

105. ***Climate.*** The closed position of the Fergana Valley gives it a great climatic peculiarity. Mountain ranges protect the Fergana Valley from air masses invasion, bringing moisture and cooling, so precipitation in the Andijan region is almost 1.5 times less than in Tashkent, it causes greater weather stability and the absence of sharp decreases in the absolute minimum temperature in winter. Climatic conditions of the territory are characterized as sharply continental. Winter is relatively mild, with average monthly temperatures ranging from -1 to +6°C. The coldest months of the winter period are January and February. The absolute minimum winter temperature is 29°C. The average annual temperature is 14.5°C.

106. Precipitation is in the form of rain and snow. Precipitation prevails from November to March and is connected with the development of cyclonic perturbations and cold intrusion. From April to August, rainfall is possible, with summer rainfall of an exceptionally thunderstorm nature and is associated with a highly developed convention during heavy incursions. The average annual rainfall is 220 mm. Winds are observed in variable directions, with priority given to eastern and north-eastern directions. The condition of atmospheric air is determined by the emissions of mobile and stationary sources and the conditions of their dispersion. Andijan region is an industrial region on the one hand, and on the other hand - a region where plant growing and animal husbandry are widely developed, that is why there are suspended solids, sulphur dioxide, carbon monoxide, nitrogen dioxide, ammonia, etc. in emissions of harmful substances. But the level of air pollution does not exceed the permissible standards.

107. ***Surface waters.*** The main river in the Andijan region is the Karadarya River, which originates in the mountains of Kyrgyzstan. Andijan Reservoir is built on it. In addition, large Sais, such as Kek-Art, Tentyaksai, Mailisu, Aravansai, Akbura, Shahrikhansai, Andijansai and numerous seasonal Sais, carry their waters from the mountains. There are 3 reservoirs and several lakes. A dense irrigation-drainage network has been created in the region. Large channels are laid here: the Southern Ferghana Canal, the Great Ferghana Canal, the Great Andijan Canal, the Mazgilsay Canal, the Sawai Canal, Karagunan Canal and many small channels and collectors. The chemical composition of the hydrographic network of the region is formed under the influence of sewage from industrial enterprises of the city of Andijan and agricultural effluents. According to visual indicators, the rivers are characterized by rapid flow and reduced transparency due to clayey suspensions of natural and anthropogenic origin, the bottom is covered with regrowth in the form of blue-green algae films and brown-gray crust, evenly covering stony substrates.

108. Andijan region is famous for its springs. Totally 26 springs have been registered, whose waters are very tasty and healthy. Most of them are protected natural areas, in particular, Balikchi district, where such streams as Sarik Suv, Kul, Uch Bullock and Tuzlok Buvi are located. Nayman, Buta Kori, Olim, Dustlik, Imom

Ota have springs Kora Bosh Bullock, Olim Bullock, Kirk Bullock, Kambarota and Imomota. All springs are accessible and have electricity supply.

109. ***Hydrogeological conditions.*** The hydrogeological conditions of the area under consideration are determined by the geological structure and climate (Fig.5). Strong rock fracturing, a series of tectonic faults and surface exposure contribute to the accumulation of relatively large groundwater reserves of atmospheric nutrition. Underground, ground waters of the area under consideration are sub-pressurized. The upper and lower rock horizons are in close hydraulic reciprocity. They are fed by filtration from surface watercourses, infiltration from irrigation fields and inflow from gypsometrically upstream areas. Ground waters of the district are subdivided into interlayered waters of tertiary sediments and ground waters of quaternary formations. Ground waters of Neogene sediments, confined to the conglomerate part of the thickness and occur at a depth of more than 1000 m.

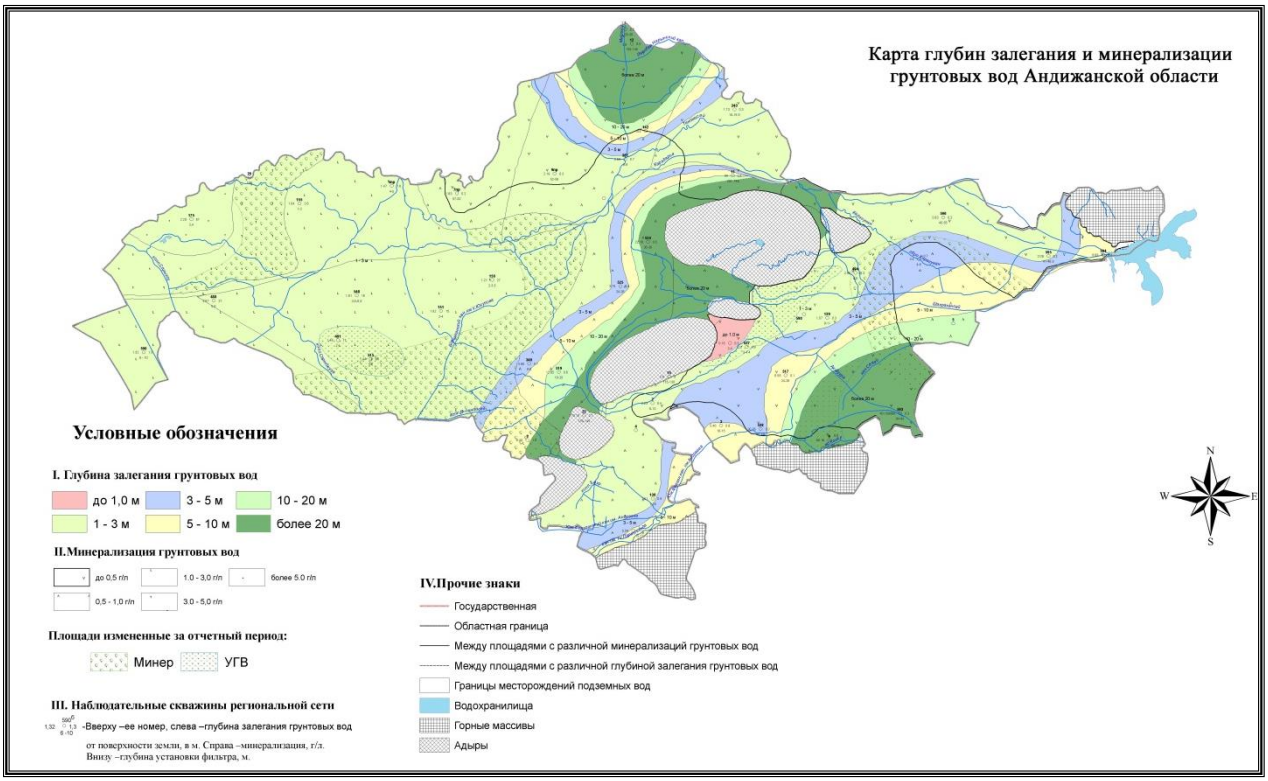


Figure 5: Hydrogeological conditions of Andijan region, depth of occurrence and groundwater salinity

110. Quaternary ground waters are mainly confined to the gravel and pebbles layer, while rocky forests are a waterproofing element. Near the Andijan-sai River and the city canals, the estimated maximum of the groundwater table is quite high, equal to 0.5-3.0 m, and the amplitude of the groundwater level fluctuation is low - 0.4 m. The filtration factor is 54 m/day. In general, the depth of groundwater level increases from west to east, the maximum groundwater level is confined to July-August, the minimum - to winter months, with an amplitude of up to 1.5 m and more meters. Ground waters of the district are not mineralized enough. Dry residue of water-soluble salts - 340 mg/l, total hardness - 8 mg-eqv/l. Hydrochemical composition of water is hydro-carbonate-sulfate-magnesium, slightly alkaline. During the period of high standing, groundwater salinity increases.

111. ***Soils and grounds.*** The territory of the whole Andijan region is located in the second Central Soil and Climate Zone, covering dark, typical and light sierozems. Soils of the Andijan region belong to the old irrigated soils with a pronounced cultural layer. Light sierozems prevail, which are characterized by high carbon content and relatively low humus content. The mineralogical composition of soils is characterized by the richness of primary minerals, due to poor weathering of rocks. Soil-forming soils (light gray soils) are loess and loess-like loam of proluvial, deluvial and alluvial genesis. In most cases, they're underlain by pebbles. These soils develop in the zone of semi-deserts or desert steppes, low-grass semi-savannahs. The serozem fauna is also

very diverse. Lots of shellfish, insects, spiders, termites, worms. There area also has many classes of vertebrates among the shrewd.

112. Calcium carbonate predominates in the composition of carbonates in sierozems. In the soil horizons with approaching the day surface, the increase of absorbed potassium and calcium is observed. The gross content of potassium and phosphorus varies slightly from place to place, the calcium content is constant.

113. In general, there is a lack of magnesium and potassium. The total nitrogen content of serozems is also low. Nitrite, nitrate and ammonium nitrogen concentrations averaged 0.004, 0.006 and 0.043 g/kg, respectively. Average sulfate content 0.332 g/kg. Micronutrient concentrations vary slightly and no significant excesses over local background values are detected. The condition of the soil should be considered satisfactory.

114. Geomorphologically, the area under consideration is confined to the third floodplain terrace of the Karadarya River. The territory of the region is composed of alluvial-proluvial-polyuvial deposits of the Syrdarya, Golodnostepsk and Tashkent complexes. The sediments are represented by pebbles, which are covered by sandy loam and sandy loam of various thicknesses. A bulk layer of mechanical mixture of sandy loam, loam, pebbles with the inclusion of construction waste of 0.8 - 1.5 m capacity is opened from the surface.

115. ***Vegetation and wildlife.*** The Andijan oasis has almost completely changed the natural landscape into a cultural one. The main agricultural crop of the region is cotton. In addition to cotton, the region also produces cereals, grapes, pomegranates, figs, persimmons, peaches, apricots, melons, pumpkins and a variety of vegetable crops. Tree vegetation is represented along with native species of acclimatized vegetation from other regions.

116. A characteristic feature of vegetation is the domination or significant participation of ephemeroids and ephemeroids, adapted to the contrasting moisture regime characteristic of the area. Among the ephemerals, the dominant species is the bluegrass, the sedge, and onion barley. Poplar, karagach, plane-tree are very typical for local conditions, and such species as gledicia, ailanthus, sophora and thuja are becoming more and more widespread in cities. Along the roads, planting of various trees - poplar, plane-tree, ash, sophora, less often thuja - has become widespread. Tree vegetation is mostly in satisfactory condition. Plants' habitus, their height, shape of the crown correspond to their norm. Watering plants contributes to this.

117. Along the collectors and along the edges of the fields there are artificial plantings of trees, mainly mulberries and poplars. Roadside and field protection lanes include such deciduous species as sycamore, karagach, ailanthus, ash, acacia. Along the collectors, woody plantations with shrub-grassy canopy, with thickets of amber, licorice, reed, rosettes, satiety, reeds, humane prevail. Along the embankments of the roads and on the sidewalks formed a sparse cover of bluegrass, fire, cornflower sprayed, cousinia, capers.

118. Vegetation on the territory of shirkat farms is represented by artificial plantings of trees, shrubs, vegetables and fruit crops. Under the canopy of trees, on the cavities, on the sidewalks of roads, on the banks of ditches are formed cenosas from weeds. Old tall trees with a lush crown dominate the old residential development.

119. Conifers and fir trees have become very popular in the area, especially spruce and blue, juniper, fir, cypress, pine, cedar. Also nowadays, chestnuts and walnuts are being planted, in the yards there are almonds, pistachios, persimmons, jiddah, unabi, pomegranate trees, wine trees (yellow and black figs), laurel and various fruit trees. In recent years, the region has seen the emergence of many lemonaria and the cultivation of kiwis. The foothills are rich in fir and juniper forests, sea buckthorn groves, and walnut forests in the east of the region. Due to the fact that most of the territory of the region is developed and cultivated, animal biodiversity here is minimal and fauna is represented mainly by rodents (vole, house mouse, gray rat), avifauna (rook, pebble, gray crow, starlings, various types of sparrows, mayna, pigeons, etc.), farmyards (cattle and small cattle, bird).

120. ***Analysis of the population survey and identification of existing environmental problems.*** Group of consultants of the project visited the selected areas and villages in order to assess the current state of the environment and identify the main environmental problems in the selected villages of the Fergana Valley. Based on meetings with local communities and meetings in each area with the organized management and

programme implementation headquarters through interviews, as well as site visits and visual surveys, the types of impacts are identified that may be associated with different potential sub-projects. In Andijan region, a survey of local residents was conducted in three villages: Ulugnar, Buz and Pakhtaabad. On the issue of providing drinking water to households, the answers of residents are ambiguous. The worst situation is in Pakhtaabad, where 72% of the population is not provided with sufficient drinking water. More than half of the residents of Boz (51.7%) and 40.7% of the residents of Ulugnar do not receive the necessary amount of water for the household. Therefore, the first problem is the insufficient supply of drinking water to settlements.

121. On the issue of providing all residents with irrigated water in the settlements, an unambiguous answer was received about the insufficient supply of water resources. Moreover, the lack of irrigation water is confirmed by residents of all 3 villages - from 72.5% to 81.4% of all respondents. This issue has highlighted the acute problem of the Andijan region in all three districts. On the issue of soil (ground) fertility, 94% of respondents in Pakhtaabad district and 88% in Ulugnar district did not identify this issue as a problem one. For the residents of Boz district the issue of soil fertility turned out to be relevant, as only 50% of the respondents noted that the land is fertile.

122. The problem of soil fertility is identified for the Boz district. Heating of houses in all 3 districts is carried out using either coal or gas. Electric heaters are practically no longer used, and the use of Guzapai and litter as fuel has become a thing of the past. Pakhtaabad is characterized by the use of gas as fuel (83%) of respondents, for the Boz district the priority is coal (89.6%), and of those surveyed Ulugnor district noted that 1/3 uses coal, and 2/3 - gas.

123. Consequently, the air condition is more adversely affected in the Bozsky District and less so in the Ulugnor District. Insufficient gas supply is most acute in Boz district. When asked about fuel shortages, all interviewees noted that there were other sources of heating. For example, in Ulugnorskiy District it is felling of trees (29.5%). Other sources of fuel are used by all respondents from 25.9 to 36%.

124. Thus, one of the problems of the region is the lack of fuel and environmental damage in the form of reduction of woody vegetation and harmful emissions into the atmosphere. The problem of lack of centralized sewerage system is identified for all surveyed settlements. Respondents know how pit latrines should be arranged, but note that conditions do not allow everywhere. Insignificant number of people (about 5%) of respondents do not know about the correct arrangement of pit latrines.

125. On the issue of waste types (recyclable and non-recyclable), respondents answered ambiguously. The interviewed Pakhtaabad (28.2%) believe that more waste is generated, but more than half of them could not answer the question. The respondents from Boz and Ulugnor Districts determined that the recycled waste is recycled, with 62.9% and 41% respectively.

126. When asked about waste disposal, residents of Pakhtaabad (94%) and Ulugnor districts (82%) answered about centralized waste delivery to garbage trucks, i.e. waste removal from settlements is organized here. In Boz District, 75% of respondents bury garbage at their sites. Waste generation and utilization issues showed a low level of public awareness of waste management, their recycling and low organization of services, lack of material resources.

127. Each family is mainly responsible for the improvement of the settlements on its own. Possible public works in spring time, timed to coincide with important dates (Navruz, Independence, etc.). Usually Khashar is announced by such dates. Each family, collective and organization carries out landscaping in a single time.It's a people's tradition. The problem with this issue is related to the insufficient organization of services, lack of equipment and facilities. Dust from the roads is a problem for all three districts. Most often the reason is poor quality of services, quality of road surfaces and lack of technical water, equipment and facilities. The last question concerned emergency situations (floods, mudflows, earthquakes). The majority of respondents noted that these phenomena rarely occur. The Sarbon MCA visual inspection in the Bozsky district revealed a number of problems (Annex 4).

5.2 Namangan region

128. The Namangan region occupies the northern part of the Fergana Valley. The region borders Tashkent Region in the west (connected by the Kamchik Pass), Sogd Region of the Republic of Tajikistan in the south-west, Andijan Region in the east, Fergana Region in the south and Jalal-Abad Region in the north.

129. Administratively, Namangan region is divided into 11 districts. It was decided to conduct research in three districts: Chartak, Mingbulak and Pop districts. (Table 4) (Fig.6)

Table 4: Basic administrative-territorial units of Namangan region

Map numbers	District	Center	Composition
3	Kasansai district	Kasansay	Kasansay city, 10 urban settlements (us), 7 rural gatherings of citizens (rgc)
4	Mingbulak district	Jumashui	7 us, 7 rgc
5	Namangan district	Tashbulak	10 us, 12 rgc
6	Naryn district	Hakkulabad	Hakkulabad city, 8 us, 8 rgc
7	Pop district	Daddy...	city of Dad, 15 us, 10 rgc
8	Turakurgan district	Turakurgan	the city of Turakurgan, 13 us, 8 rgc
10	Uychi district	Uichi.	13 us, 8 rgc
9	Uchkurgan district	Uchkurgan	Uchkurgan city, 4 us, 8 rgc
1	Chartak district	Chartak	Chartak city, 10 us, 9 rgc
2	Chust district	Chust	Chust city, 11 us, 11 rgc
11	Yangikurgan district	Yangikurgan	19 us, 11 rgc
	Namangan city		

Admistrative division of Namangan region

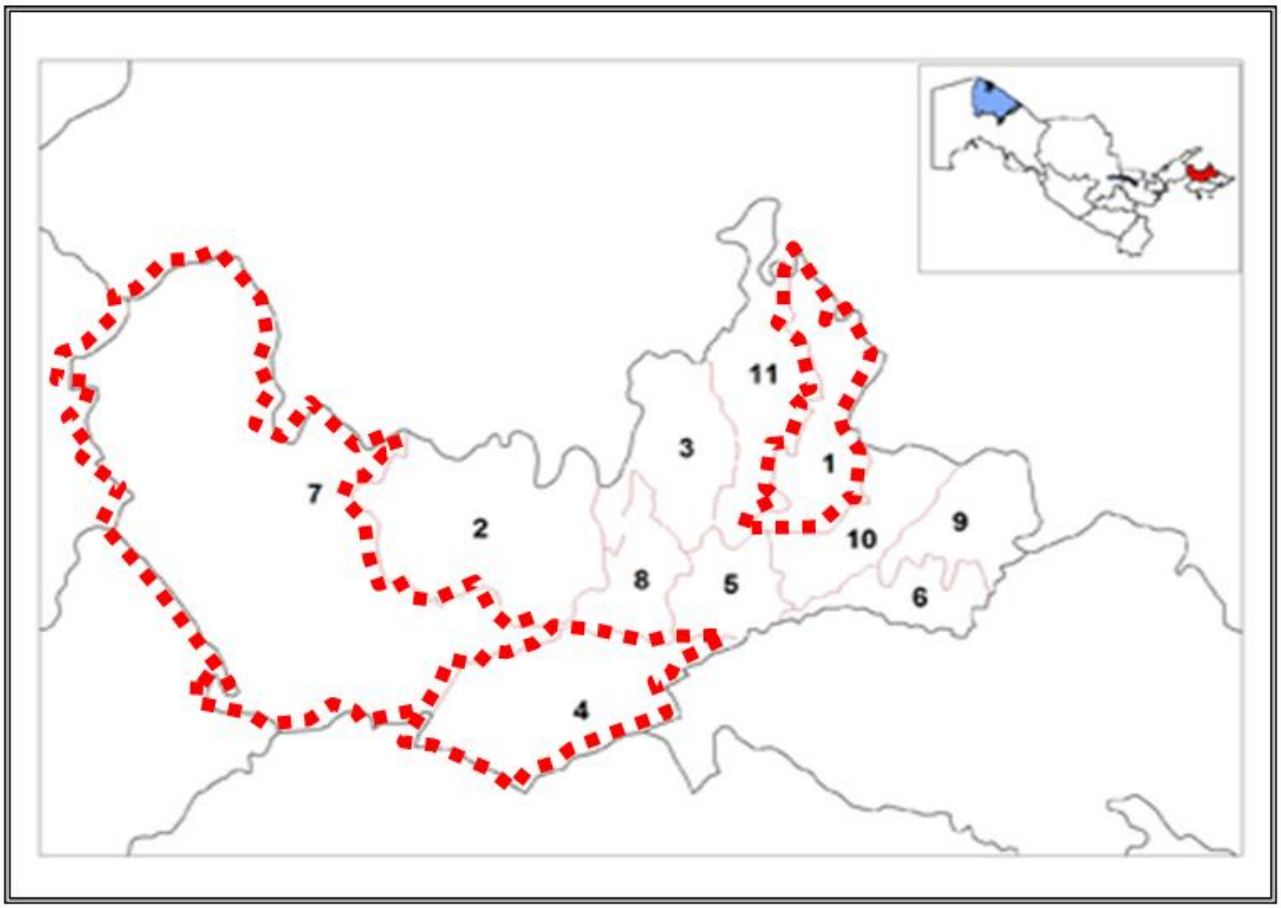


Figure.6: Location of the investigated districts of Namangan region: 1 -Chartak district (Hazratishokh village), 4 - Mingbulak district (Baland Gurtepa MCA), 7 - Pop district (Chiganok MCA).

130. ***Relief.*** The relief of the area is diverse (Fig. 7). The northwestern part of the region is occupied by the Chatkal and Kuramin Ranges and many of their spurs, such as the Satartau Mountains. Absolute altitudes along the northern border range from 1800 to 3000 m. A significant part of the territory of the region is occupied by Adyrs (foothills) with absolute marks of 650-1200 meters above sea level. The main relief of the foothills is complicated by the merged cones of removal of the Sais flowing down from the mountains. The main ones are Namangansai, Girvansai and Irvadansai, Kasansai, Sumsarsai, Chadaksai, Rezaksai, Hawasai and many others. The southern part of the region, which occupies ≈ 1/3 of the territory, has a flat terrain with altitudes of 380-550 meters above sea level and a general slope to the SyrDarya river.

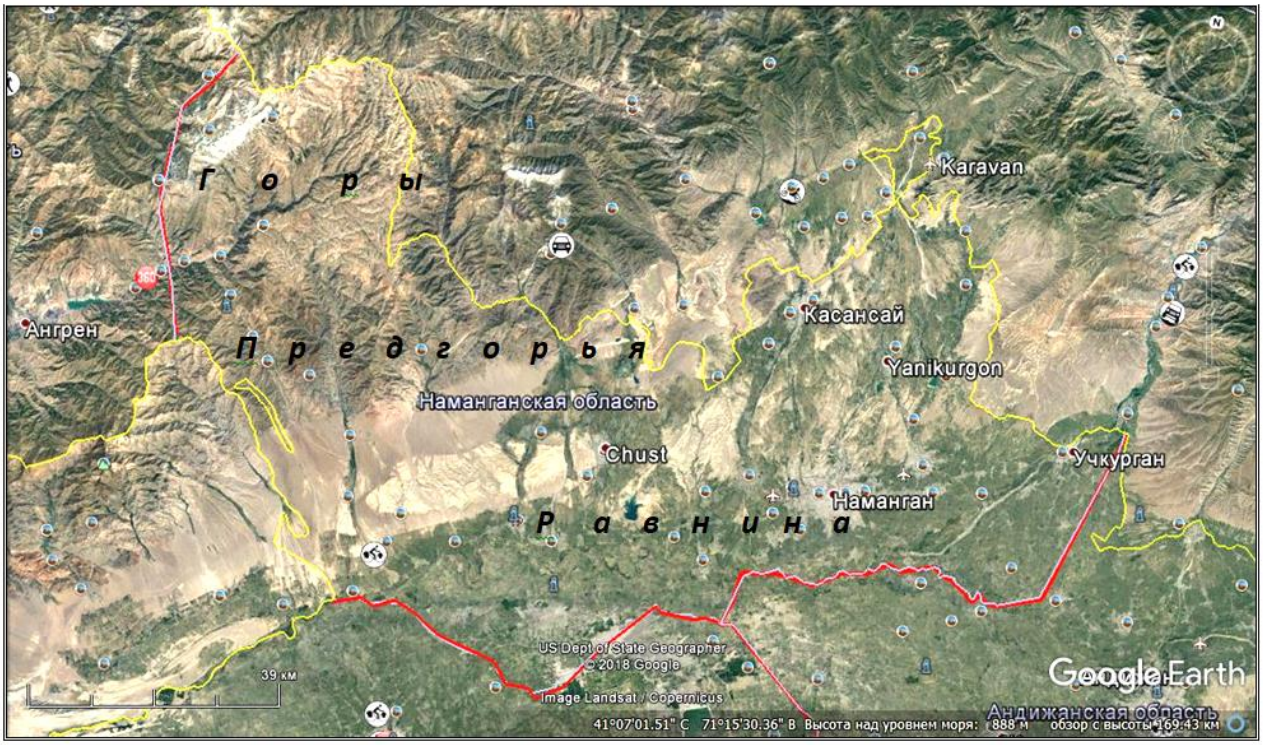


Figure 7.: Regional (red) and national (yellow) borders of the Namangan region and relief forms of the study area.

131. ***Climate.*** The climate of the region is sharply continental. The average annual temperature in the city is 15.23C. The annual temperature ranges from -20.50 C in January to +42.50 C in July. The average minimum temperature is -4.64 C, the average maximum temperature is 35.74 C. It's a long, hot, dry summer. The hottest month of the year is July with an average monthly air temperature of 28.56C. Winter is short, without any sudden changes in temperature. The average duration of winter is 1.5-2 months. The coldest month is January with the average monthly air temperature of -0.41C. The first frosts come in October-November, the last in March.

132. The amount of precipitation is not high, averaging 182.4 mm. Average monthly precipitation ranges from 2-4 mm in August-September to 24-30 mm in January-March. The wind regime is characterized by the predominance of northern (20.03%) and north-western (14.88%) winds (Figure 1.1). Stiles or windlessness occur in 8.31% of cases, which contributes to the accumulation of contaminants in the ground layer of the atmosphere.

133. The climatic background of the region has a number of positive and negative qualities that affect the ecological condition of the area. Thermal state of the environment is characterized by such favorable factors as a significant duration of a warm period of the year - eight months. Adverse factors include the presence of conditions that determine the overheating of the environment. These conditions are established from the beginning of May to the end of September with the heaviest heat regime in June-August. Summer weather in open spaces is assessed as unfavorable. Negative impact of high temperature background is manifested in the intensity of the processes of rotting of all kinds of waste and rapid reproduction of bacterial flora.

134. Dryness and wind activity increase air pollution due to natural dustiness, which sharply increases during dust storms. The largest number of these phenomena occurs between April and June. Dust storms are rarely observed in the later period - July-September. Observations of the atmospheric air condition in the cities of Namangan region are carried out at the stationary posts of the State Environmental Monitoring Service of the Hydrometeorological Service Center under the Ministry of Emergency Situations of the Republic of Uzbekistan (UzHydromet). According to UzHydromet observations, the average annual dust concentration varies within the range of 0.1 mg/m3 and does not exceed the MAC. The maximum single dust concentration in urban areas also did not exceed MAC and was 0.4 mg/m3 (0.8 MAC). Annual concentrations of sulphur dioxide in the largest industrial city of the region - Namangan - did not exceed MACS and MACS and amounted to 0.003 and 0.005 mg/m3 respectively. The average annual concentration of carbon monoxide was

2 mg/m3 (0.7 MAC), the maximum single value did not exceed 4 mg/m3 (0.8 MAC). The average annual concentration of nitrogen dioxide was 0.03 mg/m3(0.8 MAC), the maximum single concentration according to observations was 0.06 mg/m3(0.7 MAC).

135. ***Surface waters.*** The main river in the region is the Syrdarya. The largest number of tributaries of the Syrdarya receives from the mountainous and foothill parts of the region. One of the major right tributaries is the Padschaata (Namangansay). The average annual flow of the river is 193 million m3 with variations from 108 to 271 million m3. Flood discharge in high-water years reaches 25 m3 / s. The Padschaata River in the Zarkent area comes out of a deep mountain gorge and branches into a number of branches, one of which is Namangansay. The Girvansay River originates in the valley of the Kasansay River and flows through the city of Namangan. The Bulak-say river (Irvadan-say) flows along the western outskirts of the city. Large Sai such as Chadaksai, Rezaksai, Hawasaii are also mudflows. The maximum discharge of all the listed rivers is formed in April-May, during the period of snowmelt and heavy rains, which leads to mudflows. Catastrophic mudflows of great destructive power are rarely repeated, and relatively small ones take place annually. The total flow of mudflows is insignificant, but at high gradients of the catchment area mudflows quickly increase, exceeding the normal flow rate by several times. To prevent mudflows along the river valleys, mudflows, crossroads and mudflows have been constructed. In addition to natural watercourses, the territory of the province is crossed by a number of large canals: the largest in the province, the Fergana Canal (FC), running at the foot of the Adyr River; the Big Namangan Canal (BNC), running in the Adyr River zone; the Akhunbabaev Canal; the Andijan Canal; the Yangiaryk Canal; and a number of smaller canals.

136. Water from all canals is used to irrigate the entire Namangan region. To intercept mudflows arising in Sumsar-Namangan Adyr, a system of mudflow control structures consisting of 2 channels "New Chelikhona" and "Silkhona" was built. These channels are discharged to Kasansay. The route of the Great Namangan Canal, which crosses a lot of lakes and watercourses, also serves to protect the city from mudflows. In addition, in the adyrna reservoir, drainage ditches are used to disperse stormwater and are discharged into the main canals.

137. ***Hydrogeological conditions.*** The hydrogeological conditions of the Namangan region are extremely diverse (Fig.8). Here, mountainous areas, territories of Adyrs, floodplains and floodplains of the Syrdarya River are distinguished. The surface of the terraces of the Syrdarya River is a flat alluvial plain, slightly sloping to the south-west of the Syrdarya River, with a slight slope towards the Syrdarya River, composed of loess-like loamy loam and sandy loam with a thickness of 1 to 10 m, underlain by gravels. Groundwater depth on the second terrace varies from 1 - 5 m in the south-eastern part to 5 - 20 m in the central and north-western parts. Water is highly mineralized.

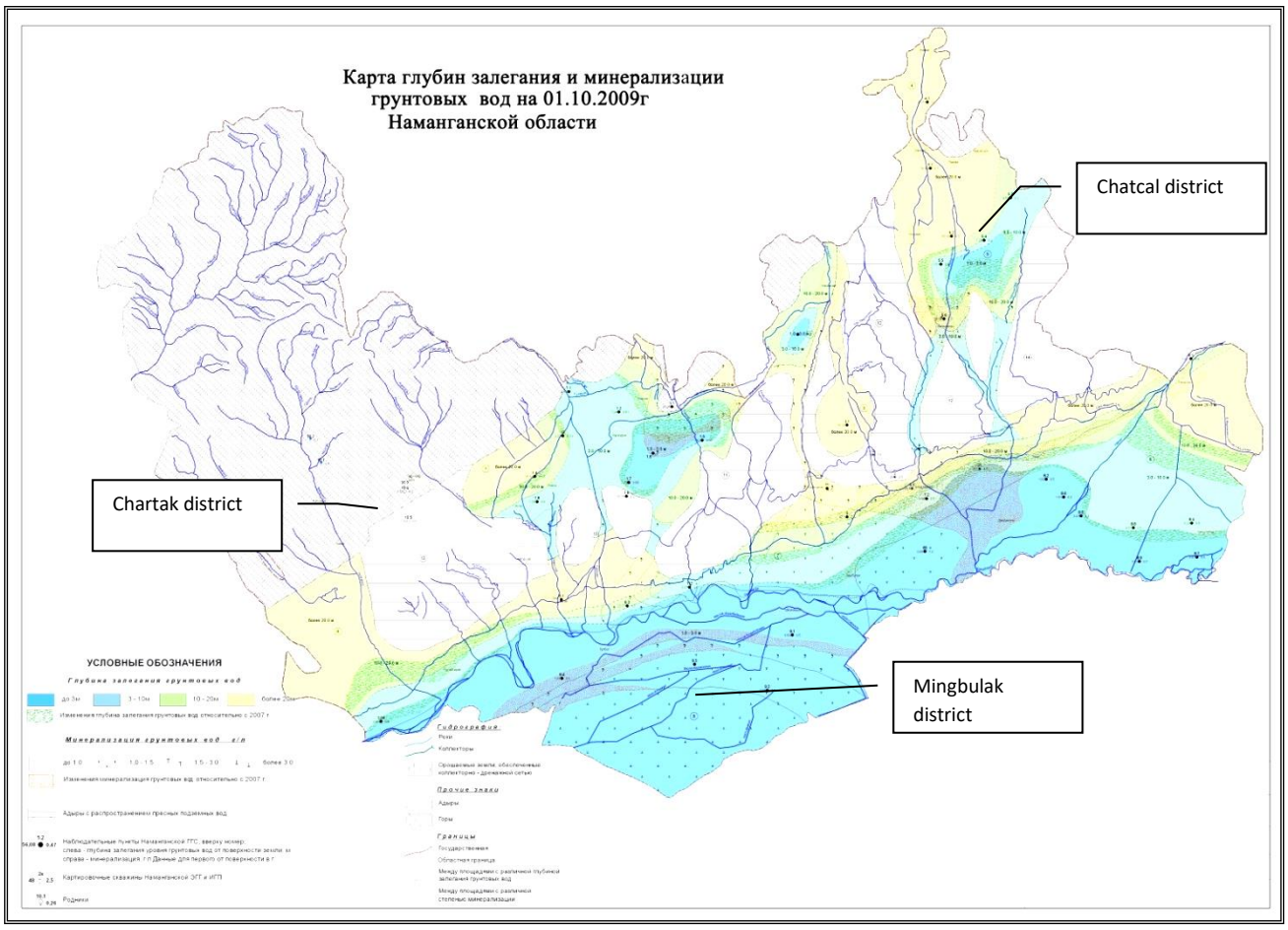


Figure 8: Hydrogeological conditions of Namangan region, depth of occurrence and groundwater salinity

138. The third floodplain terrace is complicated by the cones of removal of sais, merging on the foothill strip, composed of proluvial deposits. Absolute surface marks vary from 420 to 490 m. According to the engineering and geological conditions, the area of the second and third floodplain terraces is composed of sandy loam and loamy loam surfaces with a capacity of 1 - 3 m, underlain by pebbles. Groundwater depth 2 - 5 m. In some places, the area is composed of thick pebbles in the sandy bundle covered with sandy loamy loam and sandy loam deposits. The thickness of fine-grained deposits can reach 3 - 5 m. The degree of groundwater salinity is medium. The Adyr region is composed of loams and loamy loam with a thickness of up to 1 m, in some places up to 5 - 10 m. Below lies a powerful layer of pebbles. Sediments are being replenished in places. The soils are heavily gypsum plastered. Absolute surface markings of the adyr part vary from 600 to 1200 m above sea level. The surface slopes vary from 0.010 to 0.070. The depth of groundwater occurrence is more than 100 m.

139. The section of the floodplain sediments of the sayas is represented by loams and sandy loams with a thickness of 0.7 - 3.0 m, underlain by pebbles with a thickness of up to 5 m. Ground waters of the modern river valleys are closely connected with the ground waters of the cones of the same name. They lie at different depths from 10 - 20 m near the tops of the removal cones to 0.5 - 2.0 m in their peripheral part.

140. ***Land cover status.*** The formation of soil cover was significantly affected by climatic conditions, which are characterized by semi-desert soil formation factors. The soil cover is represented by various types of light and irrigated sierozems. They differ in thickness of the fine-grained layer, skeletons, lithological composition and presence of salinization, as well as in the degree of development and agro-meliorative transformation. Bright sierozems in the Adyr area are characterized by poor nutrients and strong plastering. Soils are unstructured, eroded. Groundwater does not participate in soil formation processes.

141. Light sierozems of the removal cone zone were formed on alluvial-proluvial and loamy-pebble deposits and due to the old irrigation belong to the old irrigated ones. The soil texture is loamy and formed. Salinization has been noted in places. Carbonate content increased: up to 6 - 9% CO2.

142. Bright sierozems of floodplain terraces are also old irrigated. Soil formation processes took place with periodic participation of ground waters. The mechanical composition of soil is medium and heavy loamy on loamy and loamy-pebbly sediments. Soils are sometimes saline. Salinity is low. In the case of drainage, which provides a constant outflow of groundwater, salinization is not a threat. Carbonate content is high from 6 to 9% CO2. All kinds of water and wind erosion of soils are developed on the territory of the city. Irrigation erosion is observed along the banks of canals and rivers, and intensified along exposed terrace and bank ledges during wet seasons and during high flow floods. Slope gully erosion is a further development of irrigation erosion and is developed mainly within the boundaries of the adyrna zone. The development of ravines is facilitated by the predominant development of loams, steepness of slopes and their nakedness. Slope erosion is mainly developing in the northern part of the city.

143. The mechanical composition of soils and the nature of mother rocks do not contribute to the accumulation of toxic substances coming with fertilizers and irrigation water from ditches. Thanks to this, the geochemical condition of soils according to the results of elemental analysis is safe and the content of toxic elements does not exceed the permissible values. Within the territory of the settlements the vegetation cover is represented by ephemeroidal - ephemeric communities with dominance of herbaceous species - sedges, fires, malcolmy, trigonella, annual astragal, and with obligatory participation of coarse-steeled thorny grasses, dominating in the cover in summer time - cousins, camel thorn (amber), azherek, mamak and annual semi-dry saltwort.

144. The region's agricultural lands have been widely developed, including gardens, vineyards, and crops of various crops, so many areas do not have typical ephemeral-ephemeroid communities with a full range of species. The predominant vegetation is weed grass, which is dominated by arpahanas and fingers with prickly cousins and cornflowers. Artificial tree plantations with silk, poplars, plane trees and fruit bone species are involved within the residential areas. Along the irrigation ditches around the fields and along the roads there is a dense cover of azherek, lactose, isotope, melilot, as well as thorny capercians and amber. In recent years, the greenhouses sector has been actively developing, where not only vegetable crops but also citrus fruits are grown.

145. ***Animal world.*** The list of animal species is limited to those species that have been able to adapt to life under anthropogenic conditions. There are no large mammals characteristic of uninhabited areas. There are often ubiquitous representatives of rodents - a gray rat, a house mouse, and sometimes an eared hedgehog. Birds are typically found in rural areas of Uzbekistan. This is a large number of grey sparrows, Maina, doves, swifts and swallows. Less frequent visitors to the forties, and closer to the fall, are the representatives of the Vrana squad. The variety of reptiles is quite limited. The brightest of them are the fastest predator and the gray gecko. Among the insects are those species that live in the grass: crickets, grasshoppers, etc., among shrubs and in the vineyard - the praying mantis, wasps, hornets.

146. ***Analysis of the population survey and identification of existing environmental problems.*** In Namangan region, visual survey and survey of local residents was conducted in three districts: Mingbulak (Baland Gurtepa MCA), Pop (Chiganok MCA), Chartak district (Hazratishokh MCA). On the issue of providing drinking water to households, residents' answers showed an acute problem in two districts - Mingbulak and Pop, where 85% and 96% of respondents respectively are not provided with drinking water. In Chartak district 57% of respondents confirmed the lack of drinking water supply. The reason for this is the improper condition of artesian wells, which require repair and replacement of pumps. Provision of irrigated water to settlements is not fully resolved. The worst situation is in Chartak district, where 87% of respondents indicated a lack of water. In Mingbulak and Pop districts, about half of the residents complain about the lack of irrigation water. The reason, according to the residents, is the condition of the irrigation network and the system of water distribution on farms.

147. On the issue of soil (soil) fertility, 88% of respondents in Mingbulak district and 78% of respondents in the Pontic district determined the prevalence of fertile soils. In Chartak district almost a half of respondents indicated that soils are not fertile, and 31% of respondents believe that soils are fertile. The problem of soil

infertility is identified for Chartak district. This is primarily due to the peculiarities of the terrain (high location of the village, poor condition of the irrigation network and lack of irrigation water). Heating of houses in all 3 districts is carried out mainly by the ancient (traditional) method, when the fuel is manure, guzapaya, firewood. This type of fuel is used by 70% of respondents in the Pop district, 52% and 50% respectively in Mingbulak and Chartak districts. Local residents see the reason for this situation in the fact that the district is not gasified, i.e. there is no centralized gas supply. Power supply needs are not covered by outdated substation equipment and irregular power supply. The issue of fuel shortage was noted by all interviewees that the source of heating was wood (firewood). Therefore, from 59% to 68% mentioned tree felling as an additional source.

148. The problem in all the studied areas is the lack of fuel and environmental damage in the form of reduction of woody vegetation and harmful emissions into the atmosphere. The problem of lack of centralized sewerage system is identified for all surveyed settlements. Of the total number of respondents 38-63% know how to arrange pit latrines. But it is noted that not everywhere conditions for the proper construction of these objects allow. The construction of a concrete waterproofed base requires investment. On the question of types of waste (recycled and nonrecycled), respondents said that most of the waste is nonrecyclable (from 33% to 67% of respondents). The amount of recycled waste is less, which is the opinion of 29% to 43% of respondents.

149. The issue of waste disposal is very acute. According to residents, there is no centralized garbage collection in all three districts. In Mingbulak, Pop and Chartak districts 19%, 40.6% and 56.2% respectively burn the garbage generated. A significant part of respondents indicated that garbage is buried in the courtyards - up to 81% in the Mingbulak district, 50% - in the Pop district and 25% - in the Chartak district. Some of the Pop (9.4%) and Chartak (18.7%) districts surveyed indicated that they dispose of their garbage in landfills.

150. The problem of waste disposal for three districts of Namangan region is not solved. The lack of equipped landfills or their remoteness, the low level of organization of services, lack of logistics is the cause of this problem. In the opinion of the interviewed residents, spring landscaping in the settlements is mainly carried out by each family on its own, this opinion is held by 50% to 79%. It is possible to carry out public works in spring time, timed to coincide with important dates (Navruz, Independence, etc.), when the khashar is announced and each family, team, organization carries out the improvement in the same time. It's a people's tradition. According to the survey of citizens, public organizations are less involved in spring landscaping: in Mingbulak district - 21%, in the Pop district - 27%, in Chartak district - 47%.

151. The problem with this issue is related to the insufficient organization of services, lack of equipment and facilities.

152. Dust from the roads is a problem for all three districts, indicated by 72% to 93% of respondents. Most often the reason is the lack of hard pavements or their poor condition, poor quality of services, lack of technical water, equipment and facilities. The question on emergency situations (floods, mudflows, earthquakes) turned out to be relevant for the respondents of Chatkal district, where mudflows occur, 68% of residents noted that this phenomenon is often repeated. Most of the respondents in Mingbulak and Pop districts - 30% and 81% respectively - noted that these phenomena do not happen very often. In addition to the environmental survey, the meetings with citizens also highlighted problems that were of particular concern to them (Annex 4).

5.3 Ferghana region

The Ferghana region occupies the southern part of the Ferghana Valley. In the west the region borders with Sughd Region of the Republic of Tajikistan, in the north with Namangan and Andijan Regions, in the south and south-east - with Kyrgyzstan. Administratively, the Fergana region is divided into 15 districts. It was decided to conduct a study in three districts: Furkat, Kushtepa and Yazyavan (Table 5.).

Table 5: Basic administrative-territorial units of Fergana region

Map numbers	District	Center	Composition
1	Altyarik district	Altyarik	Tinchilik city, 14 urban settlements (us),, 15 rural gatherings of citizens (rgc)
2	Baghdad district	Baghdad	21 us, 10 rgc
3	Besharyk district	Besharyk	Besharyk city, 10 us, 9 rgc
4	Buvaida district	Ibrat	10 us, 11 rgc
5	Dangara district	Dangara	9 us, 8 rgc.
9	Kuva district	Kuva	Kuva City, 15 us, 11 rgc
8	Kushtepa district	Langar	14 us, 15 rgc
10	Rishtan district	Rishtan	Rishtan city, 13 us, 11 rgc
11	Sokh district	Ravan	7 us, 4 rgc
12	Tashlak district	Tashlak	10 us, 10 rgc
14	Uzbekiston district	Yaipan	Yaipan City, 22 us, 10 rgc
13	Uchkuprik district	Uchkuprik.	11 us, 9 rgc
6	Fergana district	Vuadil	21 us, 16 rgc
7	Furkat district	Navbahor	8 us, 6 rgc
15	Yazyvan district	Yazyavan	9 us, 10 rgc.

Location of the investigated districts of Fergana region: 7 - Furkat district (Hayit MCA), 8 - Kushtepa district (Oktepa MCA), 12 - Yazyavan district (Suvarik MCA).

153. ***Relief.*** The relief of the most part of the territory of Fergana Region is mainly flat (Fig.9). Absolute elevation markers of the plain part rise when moving from west to east. Near the western border of the region they are about 360-365m, near the eastern border they reach 477m above sea level. The southwestern part of the region is higher and occupied by Adyrs (foothills). Absolute altitude levels range from 600m to 1200m above sea level. The northern part of Fergana Region is occupied by Karakalpak and Yazyavan steppes, composed mainly of sands. The southern part of the region is a vast cone of river discharge from the Alai Ridge. Reyes such as Isfairamsay, Sokh, Isfara have formed powerful cones, which are expressed in the relief by Adyrs. Closer to the southern border of the region, the relief is dissected, the foothills are cut by ravines and valleys of seasonal sais.

Figure 9: Regional (red) and national (yellow) boundaries of the Ferghana region and topography forms of the study area

154. ***Climate.*** Due to the closed position of the Ferghana Valley, its climate differs from that of the surrounding areas. The Tian-Shan and Pamir-Alai mountain ranges protect the Fergana Valley from the air masses invading, bringing moisture and cooling. Therefore, there is less rainfall here than in the foothills and mountains of the Western Tien Shan. Mountain ridges bordering the Fergana Valley, affecting the circulation of the atmosphere, lead to the development of mountain-valley circulation. Its peculiarities are manifested in periodic intra-day change of wind directions. The main features of the climate in the Ferghana region are aridity and continentality. The average annual temperature in the city is 14.6C. The annual temperature ranges from -15.5 C in January to +41.4C in July. The average monthly temperature of the coldest month (January) is 1.00 C, the average temperature of the hottest month (July) is 27.34 C.

155. Average annual precipitation in the flat part of Fergana Region is -176 mm. The largest amount of precipitation falls in winter - in spring. Their volume is up to 90% of the annual volume of all precipitation. The evaporation rate from the open water surface is 1340-1584 mm, which is 6 times higher than the amount of precipitation. This has a detrimental effect on irrigated areas with close groundwater levels, causing secondary soil salinization processes. Dust storms are extremely rare (1-4 days a year) and occur mainly in the summer months. One of the meteorological factors determining the conditions of dispersion of pollutants in the atmosphere is the direction and speed of the wind. Northern (21.66%), south-south-eastern (11.38%) and western (8.61%) winds are typical for the area under consideration during the year (Fig. 1.1.). Stiles or windlessness occur in 27.08% of cases, which contributes to the accumulation of contaminants in the ground layer of the atmosphere. Over the last 5 years of observation, the average wind speed was 0.96 m/s, with a maximum speed of 34.0 m/s.

156. One of the meteorological factors determining the conditions for dispersion of polluting winds in the atmosphere is wind speed. Wind repetition with a speed of 0 - 1 m/sec is 83.0%, which contributes to the accumulation of pollutants in the ground layer of the atmosphere. Winds with slightly higher speed (2 - 3 m/s, frequency of occurrence 15,39 %), serving as a cleaning factor, are the most frequent from March to July. Strong winds (8-9 m/s) are quite rare (frequency 0.06%). The mountainous terrain in the southern part of the region is characterised by local mountain winds. In summer, sometimes the "Afghan man" blows - a strong (15 - 25 m/s) hot wind, carrying a lot of sand and dust. The condition of the atmospheric air depends on many factors: the presence of "dirty" industries, the circulation of the atmosphere, the quality of the underlying

surface, etc. The most industrially developed city in the Fergana region is the city of Kursk, which is a part of the Fergana Valley. Fergana. According to the data of stationary observations carried out by Glavhydromet of the Republic of Uzbekistan in Fergana at 4 stationary stations, the maximum one-time concentrations of dust, sulphur dioxide, carbon monoxide and nitrogen dioxide were 1.0; 0.4; 1.0; 1.5 MACm.r. Thus, the level of atmospheric pollution in accordance with the "Methodological guidelines for environmental and hygienic zoning of the territories of the Republic of Uzbekistan on the degree of danger to public health" is acceptable.

157. ***Surface water.*** The Syrdarya River flows through the territory of the region, and there are several small rivers that originate on the Alai Range and feed on glaciers: Sokh, Isfara, Isfairamsay, Shakhimardansay and Margilansay. The Syrdarya River is a transboundary river**.** The hydrographic network in the study area is represented by the above mentioned Isfairamsay rivers, but the network of artificial irrigation and drainage structures is the main determinant; in general, they can be divided into canal and collector waters, the largest of which is the South Fergana Canal. The Isfairamsai River belongs to the Syrdarya basin, but it does not reach it, it is disassembled for irrigation. The Isfairamsai River originates from glaciers on the northern slope of the Alai Ridge. Isfairamsai is a glacial-snow feeding river. The maximum flow rate is observed in July-August, and the minimum - in March-April. Groundwater (spring) is the main source of food in winter.

158. The Isfairamsai River is selective. On the basis of long-term observations of mudflow activity (from 1881 to 1993), an analysis of the distribution of mudflows along the Isfaramsai River and its right arm Kuvasai was carried out. During the period of observations, 55 mudflows were observed on Isfairamsai with a flow rate of 20 to 250 m3 /s. Observations on the Kuvasai River were conducted from 1886 to 1992, during this period there were 16 cases of mudflows with a fixed flow rate from 6 to 65 m3 /s.

159. All rivers except Socha, glacial-snow feeding with two maximum discharges. The Soch is a river of mainly glacial feeding. These rivers carry most of their water during glacier melt in July and August. The large water flow rate is from March to September - 59% per year. Surface waters differ significantly in terms of salinity. Thus, for example, canal waters have lower salinity than collector waters (0.46 and 1.16 g/l, respectively). The chemical composition of collector and canal waters is almost identical. Along the valley of Isfairamsay, there are collector and drainage networks. Collector water has a higher hardness of 15.2 mg-eqv/l against 5.1 mg-eqv/l.

160. ***Hydrogeological conditions.*** Most of the Ferghana Region territory is located in the groundwater transit zone (Fig.10). Feeding of the water-bearing complex composed of alluvial-proluvial deposits of the Golodnostepskoye, Tashkent and Sokh water-bearing complexes is carried out in the foothills of the Alai Ridge due to the flow of fractured waters of crystalline rocks of the folded base and atmospheric waters, and in the field of transit - due to filtration losses from natural and artificial watercourses and reservoirs, irrigation water infiltration from fields during irrigation and leaching, as well as due to upward filtration from downstream aquifers. Groundwater flow in the study area was formed due to infiltration of the underground flow of the Margilansay, Isfairamsay, Shakhimardansay and other irrigation systems.

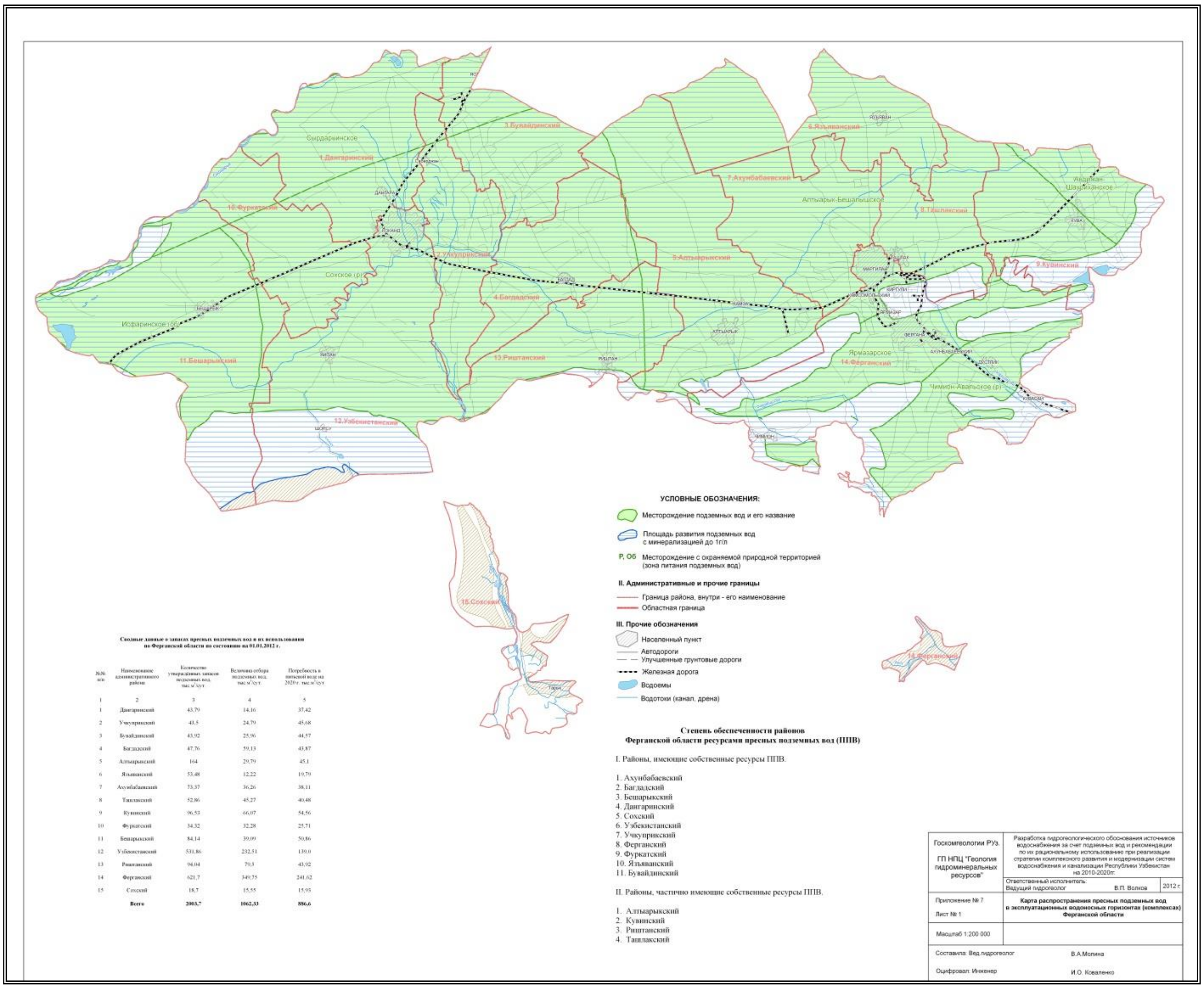


Figure 10: Hydrogeological conditions of Fergana region

161. In addition, the water-bearing complexes are recharged due to losses on infiltration of a part of the irrigation canals network water. The Sokh water-bearing complex (O1Sh) was studied in the Khoja-Gair tract, where groundwater was discovered at a depth of 9.9-13.8 m. The thickness of deposits is 3-10 m. Specific flow rate of wells 0.06-0.38 l/sec. The water-bearing complex is fed by infiltration of atmospheric precipitations and unloading of fractured waters of Paleozoic rocks. Within the Chimion-Auval and Yarmazar depressions, as well as adyr ridges, the waters of dry sediments are confined to conglomerates with extremely diverse filtration properties, and there is a natural reduction of their top-down.

162. The Tashkent water-bearing complex in the adyr ridges extends only to the north-eastern part of the Akkiyal and north-western parts of the Palmazar Ridge, as well as within the Kuva and Kapchugay ridges. The sediments are represented by poorly cemented large pebble conglomerates; within adyr ridges, and large pebbles in depressions and within removal cones. Feeding occurs due to infiltration of river and canal runoff in the areas where sediments reach the bottom surface and within the Chimion-Auval depression. Unloading takes place mainly by ascending filtration into the overlying horizons and outflows outside the area.

163. The Hunger-Steppe water-bearing complex is widespread almost everywhere and is composed of a well-sorted large pebble material within the head parts of the removal cones and its interlaying with loams on their periphery. Sealing capacity is 100 m. In terms of water abundance and filtration properties, it is similar to the Tashkent water-bearing complex. The water-bearing complex in the foothills is fed by means of fractured Paleozoic waters and atmospheric precipitation, and in the rest of the territory - by means of filtration losses from natural and artificial watercourses and reservoirs, irrigation water infiltration from fields during irrigation and leaching, as well as by means of ascending filtration from the underlying aquifers.

164. Groundwater is partly used for seepage into the collector-drainage network, evaporation, irrigation and household drinking water needs. The above described water-bearing complexes are characterized by general

regularities of seasonal and perennial regimes. In the groundwater transit zone (Yarmazar depression), the highest position of the level is observed in December-January, the minimum - in April. The amplitude of the level fluctuation is 0.9-2.5 m. It should be noted that all aquifers are hydraulically closely connected, forming a single water-bearing complex with a capacity of more than 350 m. Filtration properties of the water-bearing rocks are not uniform and deteriorate from the roof to the bottom, as well as from the tops of the cones to the periphery. The upper zone is the most permeable, with a capacity of up to 120 m. This zone was the main source of water supply in the area.

165. Hydrogeochemical peculiarities of the upper (Golodnostep) aquifer are studied in the most detailed way, since the majority of hydrogeological wells are drilled there. Sulfate, calcium, hydrocarbonate and magnesium waters with mineralization of 1-3 g/l and total hardness from 5 to 20 mg-eqv/l are most widespread. They are followed by sulfate-hydrocarbonate-magnesium waters with mineralization up to 1 g/l and total hardness up to 14 mg-eqv/l. These waters are found in the form of small spots in the areas of Karatepa settlement and in the north of Zerkent settlement. In general, the waters of the Golodnostepsk aquifer are unfavourable for drinking water supply both in terms of salinity (1-3 mg/l) and hardness, which in most cases is more than twice as high as the established norms. The amount of sulfates also exceeds MAC (500 mg/l), reaching in some cases 1000 mg/l. The relative improvement of groundwater quality is observed in the northern part of the region, where salinity does not exceed 1 g/l and the hardness is slightly reduced. Due to intensive anthropogenic pollution, groundwater of the Beshalyshskoye field is withdrawn from water use, and groundwater of the Golodnostepsk water-bearing complex, where fuel fractions of oil were spilled in the 80-90s, is especially intensively polluted. The Fergana Refinery made a major contribution to the oil pollution of groundwater.

166. Thus, taking into account the existing anthropogenic pollution, it is necessary to exclude additional loads on the district groundwater during the implementation of new design solutions.

167. ***Land cover status.*** The soil cover of the territory is characterized by a great variety of geomorphology and climatic conditions. The main area of the district is located on the Margilan and Kuva-Isfaramsay cones of removal and a small area - on the adyr ridges, located to the south-east. The soil cover is represented by light gray soils, meadow lands, medium and heavy loamy, in some places shallowly stony, from the depth of 35-85 cm underlain by pebbles. In the belt of light sierozems there is an oversized upper part of the Kuva-Isfairamsai cone of removal. The removal cone periphery is occupied by meadow soils. Ground waters here are close to the day surface and actively participate in soil formation processes.

168. Meadow-takyr soils are not saline, and among meadow soils there are various variants of salinity. However, non-saline and slightly saline differences prevail among them. This is explained by the elevated situation in the region.

169. Sierozem-meadow soils are developed in relief positions, where ground waters occur at the depth of 2-3 m and partially participate in soil formation processes, causing the middle part of the soil profile to become hardened. Ground waters are fresh and have a secured flow, so the grayishmeadow soils are quite favorable. With less irrigation and fertilizer costs, they can produce high and sustainable yields. Sierozem-meadow soils are medium loamy by their mechanical composition, and have long been used in medium and irrigated agriculture. The central part of Fergana Region is located in the belt of soils in the desert zone on the adyrna ridge, where light sierozems and grey-brown soils predominate, lying on pebbles of hungry steppe deposits with low thickness and low humus content.

170. The flora of the Fergana Valley is diverse and includes more than a thousand plant species. On sandy soils, there is a comb and saxaul, and in the flat parts of the valley the most characteristic plants are swans and wormwoods. As a result of human economic activity, development of new lands for agricultural crops is becoming less and less natural vegetation. On the adyrs surrounding the central part of the valley, including in the vicinity of Ferghana, there are widespread wormwood, bluegrass, sedge swollen, typchak, striped fescue, wheat grass creeping. The slopes of the mountains and foothills are covered with ephemeral vegetation. There are also rose hips, hawthorn, wild almonds, pistachio and various fruit trees. The western slopes of the Fergana Range are covered with nut groves, and the Alai and Turkestan Ranges are covered with junipers. There are many orchards in the irrigated areas where almonds, hoops, cherries, pears, peaches, figs and pomegranates are grown. Significant areas are allocated for cotton fields, as well as for vegetable and melon crops. The city

of Fergana has a unique street greening. In the old part of the city (Skobelevsky city, built according to the project of 1867) grow century-old plane-trees that improve the microclimate of the city and serve as its decorative decoration.

171. On the territory of the settlements the plantations of sycamore sycamore (Platanus orientalis) and ordinary apricot (Armeniaca vulgaris), poplar planting, white tututa, sycamore sycamore, field maple, nut is often found, and the flower crops - Damascus rose prevail. The most common mint along ditches are Asian (Mentaha asiatica), pine fence (Calystegia sepium), hawk (Aeliopus litoralis), chingil (Halimoodendron halodendron), red (Chenopodium rubum), swan (Atriplex heterosperma). The main crops of the dacha plots are fruit-bearing: domestic apple tree (Malus domestica), white apple tree (Morus alba), common cherry tree (Cerasus vulgaris), apricot tree (Armeniaca vulgaris). From flower crops - Damascus rose, cans. Vegetable and fodder tomatoes are edible (Lycopercicon esculentum) and sorghum technical tomatoes (Sorghum technicum). Behind the summer cottages there are fields with corn crops.

172. Among weedy plants are widely spread: blackberry (Rubus caesius), blackberry (Artemisia vulgaris), plantain large (Plantago major), spread swan, black nightshade (Solanum higrum), vegetable garden portulak (Portulaca oleraciae), red marz.

173. ***Animal world.*** The fauna of the Ferghana Valley as well as the climate and soil are gradually changing from plains to mountains. Animals of sandy and clayey deserts, mountain belts sharply differ from each other. From the steppe animals here you can see a turtle, a gopher, a gopher, a carcass. In the Adyrs there are turtles, snakes, (grey gecko, fast lizard, steppe agama, yellow-throated), tolai hare, various birds (bullfinch, southern mumble, green lizard, goat). The mountains are inhabited by foxes, wolves, wild cats, larks, quail, quail, owl, owl, nightingale, eagle, etc. There are jackals, pheasants in the tight spaces. There are sazans, catfish, pike in rivers and water basins, trout and moonfish in mountain rivers.

174. To protect wildlife (pheasants) and riparian vegetation (willow, poplar, loach) in 1978 on the banks of the Syrdarya River was established Abdusamatsky wildlife reserve on an area of 2518 hectares. The changes that have taken place over the last 30-50 years in the Ferghana Valley have had a negative impact on wildlife. The changes are especially great in the plain part of Fergana Region, where anthropogenic landscapes dominate over others, which are associated with the life of almost half of the species composition of mammal fauna. Changes occurring in the biocoenoses of the Ferghana Valley as a result of human activities, lead to the fact that the vacant ecological niches are filled with more plastic and synanthropic species.

175. Sinanthropic species - house mouse (Mus musculus), grey rat (Rathis norvegicus) are a constant companion of humans and are characteristic of the area under consideration. These species are found in other anthropogenic landscapes and wildlife at the same time. Some species are earth rat (Nesokia indica), muskrat (Ondatra zhibetica), a number of bats (Chiroptera), etc. - quickly adapt to anthropogenic landscapes and human structures. Animal husbandry in the Ferghana region has a meat and dairy industry and is developed mainly in cotton farms on the basis of corn, alfalfa and imported nutritious fodder. In the foothills of the region, sheep breeding and goat breeding are developed on natural pastures.

176. ***Analysis of the population survey and identification of existing environmental problems.*** In the Ferghana Region, visual surveys and interviews with local residents were conducted in three districts: Furkat (Hayit MCA), Kushtepa (Oktepa MCA) and Yazyavan (Suvarik MCA). On the issue of provision of drinking water to households, the answers of residents showed an acute problem in two districts - Yazyavan and Kushtepa , where 93% and 94% of respondents respectively are not provided with drinking water. In Furkat district 55% of respondents confirmed the lack of drinking water supply. The reason for this is the improper condition of artesian wells, which require repair and replacement of pumps.

177. Provision of irrigation water to villages is better than in other Regions, but there are problems. More than 55% of respondents from Yazyavan district said that water for irrigation is not enough. Residents of Kushtepa and Furkat districts determined the lack of irrigation water by 18-23%. The reason, according to the residents, is the system of water distribution on farms. On the issue of soil fertility, 87% of the respondents in Furkat district and 82% of the respondents in Yazyavan district determined the prevalence of fertile soils. In Kushtepa 75% of the respondents indicated that the soils are fertile, and 23% of the respondents have not

enough fertile soils. There is a problem of soil fertility in Kushtepa district. This is primarily due to the terrain features.

178. Heating of houses in all 3 districts is carried out mainly by coal and ancient (traditional) method, when the fuel is manure, guzapaya, firewood. Coal is used in all regions: in Yazyavan - 51%, in Kushtepa - 34%, in Furkat - 24% of respondents. The old type of fuel is used by 69% of respondents in Furkat district, 59% and 37% respectively in Kushtepa and Yazyavan districts. Only 2 of the surveyed districts - Yazyavan and Furkat - use electricity for heating (6% and 5%, respectively). Local residents see the reason for this situation in the fact that the district is not gasified, i.e. there is no centralized gas supply. Power supply needs are not covered by outdated substation equipment and irregular power supply. When asked about the lack of fuel, all interviewees noted that the source of heating is wood (firewood). That's why from 30% to 64% mentioned tree felling as an additional source. The problem in all the studied areas is the lack of fuel and environmental damage in the form of reduction of woody vegetation and harmful emissions into the atmosphere. The problem of lack of centralized sewerage system is identified for all surveyed settlements. Of the total number of respondents 35-67% know how to arrange pit latrines. But it is noted that not everywhere conditions for the proper construction of these objects allow. The construction of a concrete waterproofed base requires investment.

179. On the question of types of waste (recycled and non-recycled), respondents said that most of the waste is nonrecyclable (39% to 63% of respondents). The amount of recycled waste is less, which is the opinion of 21% to 28% of respondents. The issue of waste disposal is very acute. According to residents of Yazyavan district, there is no centralized garbage collection. In Kushtepa and Furkat districts 22% and 23% respectively use garbage trucks. In Yazyavan, Kushtepa and Furkat districts 41%, 31.6% and 38%, respectively, burn the resulting garbage. A significant part of respondents indicated that garbage is buried in the courtyards - up to 52% in Yazyavan district, 44% - in Kushtepa district and 37% - in Furkat district. The problem of waste disposal for three districts of Ferghana Region is not solved. The lack of equipped landfills or their remoteness, the low level of organization of services, lack of logistics is the cause of this problem.

180. According to the interviewed residents, spring landscaping of the settlements is mainly carried out by each family on its own, this opinion is held by 40% to 55%. It is possible to carry out public works in spring time, timed to coincide with important dates (Navruz, Independence, etc.), when the khashar is announced and each family, team, organization carries out the improvement in the same time. It's a people's tradition. The problem with this issue is related to the insufficient organization of services, lack of equipment and facilities.

181. Dust from the roads is a problem for all three districts, indicated by 58% to 84% of respondents. Most often the reason is the lack of hard pavements or their poor condition, poor quality of services, lack of technical water, equipment and facilities. On the question about emergency situations (floods, mudflows, earthquakes), residents said that they do not happen very often - from 23% to 58%, or do not happen at all - from 42% to 73% of respondents. In addition to the environmental survey, meetings with citizens identified problems that were of particular concern to them (Annex 4).

5.4 Jizzakh region

182. Jizzakh region is located in the central part of the country, between the rivers Syrdarya and Zerafshan. It was established in 1973. In the north it borders with the Republic of Kazakhstan and the Syrdarya region, in the southeast with the Republic of Tajikistan, in the west with the Navoi and Samarkand regions. Jizzakh region is located in the central part of Uzbekistan between the rivers Syrdarya and Zerafshan.

Administrative center - Jizzakh city.
The area of the region - 20 500 km ^{2}.
The climate is typically continental climate, with mild winters and hot, dry summers.
The population of the region is - 1,166,700 people (2011)
The region includes 12 districts and 1 city of regional subordination.
There is a car connection with Tashkent, Samarkand, Bukhara and other cities of Uzbekistan.

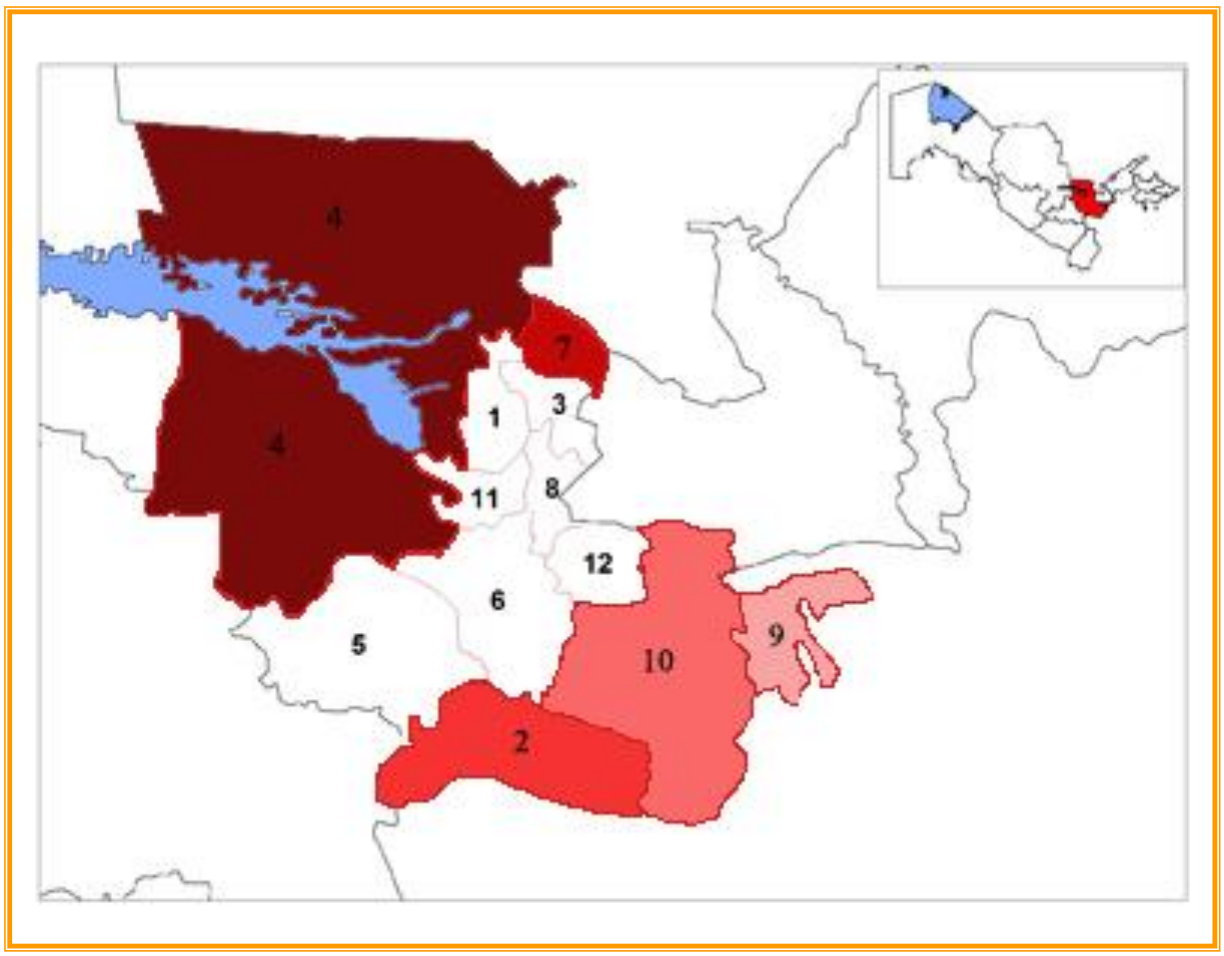


Fig.11 Administrative division of Jizzakh region

183. The region is divided into 12 administrative districts (Fig. 11)

1. Arnasay Disctrict - 43,2 thousands of people - (the capital lies at Goliblar)
2. Bakhmal District - 143,7 thousands of people- (the capital lies at Usmat)
3. Dustlik District - 61,3 thousands of people - (the capital lies at Dustlik)
4. Forish District - 87,0 thousands of people - (the capital lies at Yangikishlok)
5. Gallaorol District - 159,3 thousands of people - (the capital lies at Gallaorol)
6. Jizzakh District - 199,1 thousands of people - (the capital lies at Uchtepa)
7. Mirzachul District - 47,3 thousands of people - (the capital lies at Gagarin)
8. Pakhtakor District - 69,5 thousands of people - (the capital lies at Pakhtakor)
9. Yangiabad District - 26,5 thousands of people - (the capital lies at Balandchakir)
10. Zaamin District - 165,6 thousands of people - (the capital lies at Zaamin)
11. Zafarobod District - 46,5 thousands of people - (the capital lies at Zafarobod посёлок)
12. Zarbdar District - 83,6 thousands of people- (the capital lies at Zarbdar)

and 1 city of regional subordination: Jizzakh - 168,2 thousands of people.

184. ***Relief***. Most of the Jizzakh region is occupied by the Hungry Steppe, a loess-like plain that decreases from south to north from 400 to 200 m. Its flat relief is disturbed by a series of depressions that are directed to the north-west. The largest of them are Zhetisay, Sardoba and Arnasay. In the west, the Hungry Steppe merges with the Jizzakh steppe, which is a hollow sloping plain of the Sanzar drift cone, composed of loesses. The extreme north of the region is occupied by the hilly sands of the eastern outskirts of Kyzylkum. The relief of the southern part of the region is formed by the Turkestan ridge and its western spurs - the Malguzar and Chumkartau mountains, and the eastern part of the northern branch of the Nurata Mountains.

The Turkestan ridge and the mountains of Malguzar and Chumkartau reach a height of 2500-3000 m, composed of shales, limestones, sandstones, conglomerates. Nurata mountains within the Jizzakh region do

not exceed 2000 m, composed of shales and granites. The northern foothills of the Turkestan Range and Malguzar represent a undulating loess plain. In the middle zone, the mountains of Malguzar and Chumkartau have a soft, but largely dissected relief. The northern slopes of the ranges are gentle, the southern ones are steep and rocky. In the highlands, Chumkartau has the character of a rocky mountain range, and Malguzar has the appearance of a plateau. The Sanzar River, which separates the ridges, flows through a through a plateau-shaped plain, falling to the northwest in benches. The Nurata mountains and the foothills bordering them from the north are characterized by strong roughness and rockiness, have a desert character.

185. ***Climate*** The climate of Jizzakh region is very continental, in the desert part - sharply continental, which is manifested in large fluctuations of meteorological elements in their daily and annual variations, as well as from year to year. The average annual amplitude of air temperature (the difference between the average temperature of the coldest and warmest months) is 26 ° -30 ° C. The absolute amplitude of the air temperature (the difference between the absolute maximum and absolute minimum) is 77-80 ° C.

The winter period is characterized by extreme instability of weather, development of cloudiness, frequent precipitation and rapid change of air temperature and humidity. The coldest month of the year is January. The average monthly temperature in January varies from 0 to -5.4°C. Low temperatures are observed in the northern part of the region, which is facilitated by its open position in relation to the northern cold invasions. The lowest air temperatures are observed in the depressions where cold air flows (average monthly temperature for Gallaorol is -1.49°C), and in the mountains due to the increase in altitude (Kulsay -5.4°C). In the Kulsay region there is a steady transition of air temperature through -5°C, in the rest of the region it is absent

The absolute minimum air temperature ranges from -29 to -34 ° C, the average of the absolute minimums from -18 to -26 ° C. Absolute minimums and average of absolute minimums provide an opportunity to judge the frost hazard of the territory. From this point of view, a significant part of the territory of the Jizzakh region is characterized by moderate frosts and frosts of average force in the mountains. Winter is mild on the most part of the plain territory of the region, and in the extreme north and in the mountains - moderately cold.

Snow cover in the plain part of the territory is unstable. The number of days with snow cover is insignificant: 30-34 days on average during the winter. Stable snow cover is formed in the mountains from a height of 1000 m. The duration of stable snow cover is more than two months. The height of snow cover in the flat part of the region is low. On average, its average long-term ten-day values range from 4 to 8 cm, but in some cold winters it can be much higher (in 1969 in Jizzakh the snow cover depth was 48 cm. Significant drops in air temperature at low snow cover lead to freezing of the soil. The greatest freezing depth reaches 57 cm (Gallaorol). The period with an air temperature above 0 ° C on average in the territory is 319 (Lomakino) - 345 (Forish) days. In the basins (Gallaorol) this period is reduced to 296 days and in the mountains (Kulsai) to 237 days. In most of the territory, the frost-free period is long: it is 210-223 days, the shortest frost-free period is observed in the mountains (Kulsay - 148 days) and in the Gallaorol region, where the frost-free period is 170 days.

A significant role in the formation of summertime weather is played by the processes of transformation of air masses and the formation of local tropical masses over desert territories. Summer is hot and dry. The average monthly temperature of July, the warmest month, in the plain territory is 26.8-31.2 ° C, in the mountainous regions 16.2 ° C. The absolute maximum air temperature throughout the territory reaches 45-47 ° C. In terms of absolute maximum, the southern part of the Hungry Steppe is the hottest not only in the Jizzakh region, but also in Uzbekistan, second only to some areas of the southern regions.

The whole summer period and most of autumn are characterized by a small area and a large number of clear days. The largest number of clear days is observed in August and reaches an average of 27-28 days. Cloudy days are mainly observed in the winter-spring period. The average number of cloudy days per month is 10-15. The annual precipitation in most of the region is low: 316-357 mm. The most arid northern part of the region. In mountainous areas, rainfall rises to 428 mm (Kulsay). The interannual variability in precipitation is great. According to data from 1995 to 2016, the average long-term total precipitation in Gallyaaral is 316.83 mm per year. In Bogarn, the average long-term total precipitation is 386.24 mm. In the annual course, the largest share of precipitation falls in the autumn-winter-spring period. In summer, on the plain part of the precipitation, as a rule, they do not fall out. In the mountains, precipitation also falls in the summer. The north-east winds prevail in the region for most of the year. In summer, northerly direction winds prevail (Fig. 12). Low speed

winds (0-1 m/s and 2-3 m/s) prevail in the area under consideration - 87.08% of cases. Winds with speeds of 4-5 m/sec are 9.08% in the annual distribution.

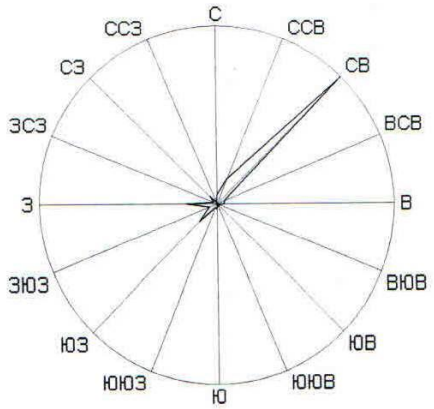


Fig 12. Annual wind rose Gallaorol

A significant influence on the wind regime is also exerted by local features of the relief. So, with approaching mountain elevations near the northern slopes of the Nurata Range, the wind changes direction to the south-west. Dry winds and dust storms are among the unfavorable weather events on the territory of the region. In rainfed areas, and in years with a lack of irrigation water - and in irrigated areas, dry winds damage plants in different phases of their development, leading to significant crop losses. Dry hot winds of low intensity are observed annually throughout the region and are amplified near desert areas. Their highest frequency of occurrence is observed in the area of Gallaorol and Jizzakh. Dust storms are observed in the whole territory of the region, but most of all in its plain part. Dust storms are most common in the Gallaorol area Aridity of the climate and wind activity increases air pollution due to natural dust, which increases sharply during dust storms and dry winds.

186. ***Surface water*** The hydrographic network of the Jizzakh region is represented by a small number of rivers, streams and sais[9] flowing from the northern slope of the Turkestan ridge and the Nuratau ridge. These rivers (streams and sais) feed on seasonal snows and mainly due to wedging out of groundwater. The water consumption in them is small and are calculated in tens of liters per second. Only in the early spring and during mudflows do these rivers carry significant masses of water. At the exit from the mountains, all these rivers are disassembled for irrigation (Fig. 12.).

[9] Mountain river/stream

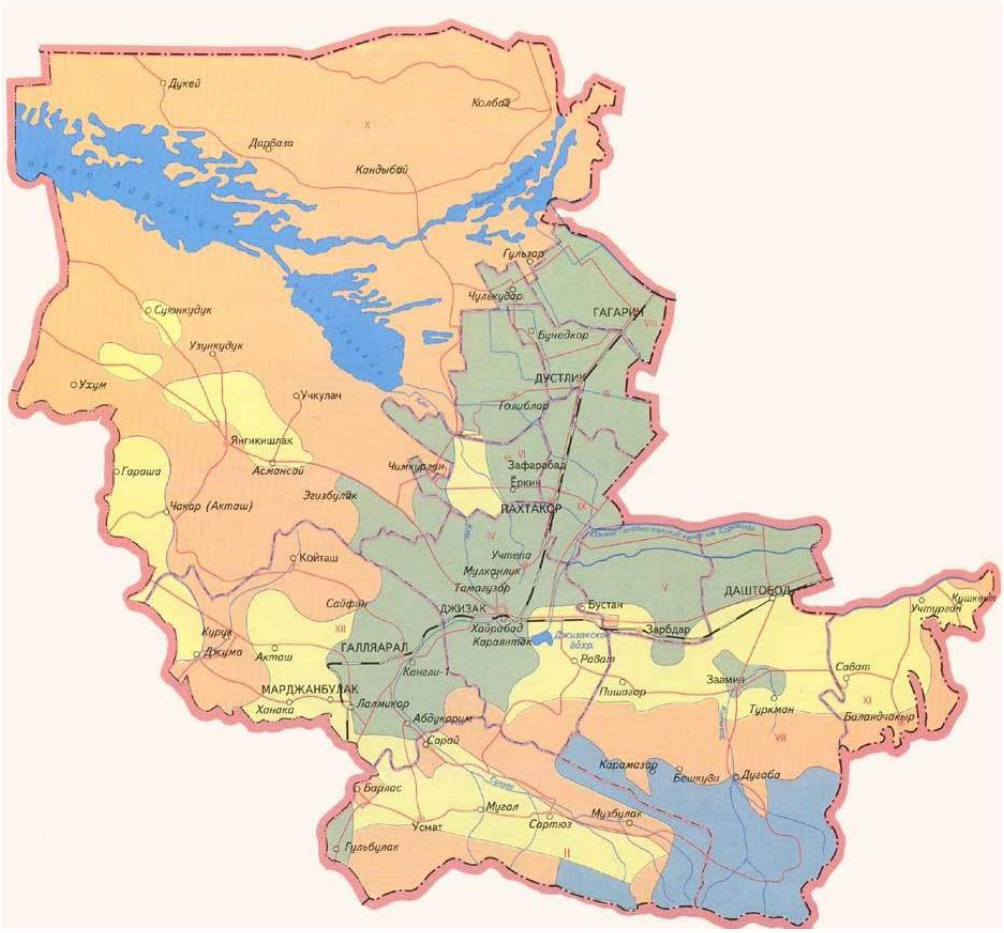


Fig.12. Map of the Jizzakh region with the administrative boundaries of the districts and the existing irrigation network

The most significant rivers of the Jizzakh region are the Zaaminsu and Sanzar rivers, which are fully disassembled for irrigation. The Sanzar River flows through the territory of the Bakhmal, Gallaaorol and Jizzakh districts. In the lower reaches (after leaving the city of Jizzakh), Sanzar flows under the name Kly River and, flowing through the territory of the Forish district, flows into Lake Tuzkan. In summer, there is not enough water, and additional water is directed to the oasis along the Eski Tuyatartar canal from the Zeravshan river. The Zaaminsu River originates from the slopes of the Turkestan Range and flows through the territory of the Zaamin district.

In the northwestern part of the Jizzakh region, the Aydar-Arnasay lakes system is located, which consists of lakes Arnasay, Aydarkul and Tuzkan. This is the largest system of lakes in Uzbekistan (Fig. 13).

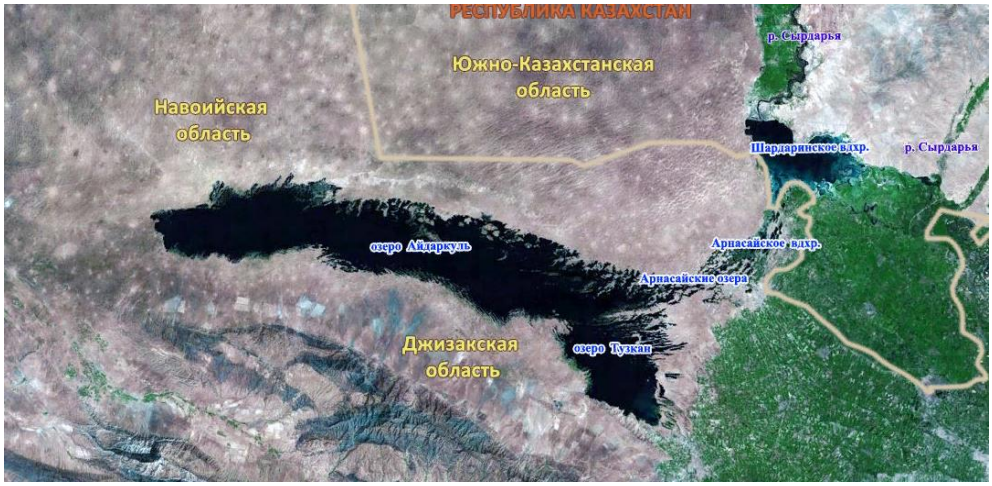


Fig.13. Aydar-Arnasay System of lakes location

These lakes were formed as a result of the discharge of collector-drainage runoff from the Hungry Steppe, as well as part of the flood waters of the Chardara Reservoir (1969-1970). In the natural Arnasay depression, a lake formed in subsequent years. Water flooded the Prytuzkan lowland and raised the level in Lake Tuzkan. Also, the Aidar basin with salt marshes began to fill with water. In 1969, during a catastrophic flood in the Syrdarya river basin, the Arnasay depression was used as a battery. The total discharge from the Chardara reservoir amounted to 21.8 km3 of water. The Arnasay lake system emerged. The level of Lake Tuzkan has risen by 10 m, and in the Aydar saline soils, in relation to the lowest levels of the bottom by 22 m. As a result of the release of water into Aydar salt marshes, the water level in the Upper Arnasay lakes decreased by 2-3 m. According to the data of N.E. Gorelkin and A.M. Nikitin (1976), a lake system was formed 155 km long, with the maximum width of 33 km, volume up to 20 km3 and water surface area of 2300 km2. In the Arnasay lake system there is an intra-annual regime of changing the phases of winter-spring filling, summer fall and autumn-winter equilibrium.

Aydarkul - a large undrained lake in the north-eastern part of Uzbekistan, is an artificial reservoir in the Arnasay system of lakes. In 2005, there were 44.3 km3 of water in Aydarkul. Today, the lake area is about 3000 km^2. Its length is almost 250 km, and its width is up to 15 km. Mineralization of water in Aydarkul is only 2 grams per liter (2 ‰). Many species of fish were brought into the lake, including carp, pike-perch, bream, catfish, sabrefish, snakeheads - now these fish are the basis for fishing. The lake system produces from 760 to 2000 tons of fish per year (according to the statistics of 1994-2001).

Tuzkan is an undrained saline lake in Uzbekistan, part of the Arnasay lake system, the second largest lake in the system after Aydarkul. Unlike other water bodies of Arnasay, which were entirely formed from waste water, Lake Tuzkan has an ancient natural origin, although significantly transformed in the course of human activity. Tuzkan Lake is located in Forish district of Jizzakh region, 56 km north-east of Jizzakh city. It is located in the extreme eastern part of the Kyzylkum desert. In the Arnasay system, Tuzkan occupies the most southern position, connecting in the northwest with Aydarkul. The lake stretches northwest-south-east and is approximately triangular in shape. The current length of the lake is 35 kilometers, the width is 22-25 km, including bays on the east coast - up to 35 km. Like other lakes in the system, Tuzkan does not have a constant shape. About 15-20% of the water surface overgrows. The coastline in the northeast is severely indented, forming many narrow and long shallow bays. Some of them are cut-off in separate reservoirs. Water spaces are often surrounded by salt marshes. This part of the lake also abounds in islets. The desert plain adjoins to it, in places overgrown with saxaul, reed thickets come across. To the south, the coastline is leveled. At the southern end, the brackish river Kly (the name of Sanzar in the lower reaches), the Akbulak and Central-Hungry-Steppe collectors flow into Tuzkan. Not far from a large body of water there are salt lakes Togay and Tuzchikudukkul. The surrounding area is marshy. The southwest coast is adjacent to the low Pistalitau Ridge (spur of the Nurata Ridge). From the west, the Tuzkan is approached by sands and hills.

There are also Jizzakh and Zaamin reservoirs in the region.

Jizzakh reservoir. The source of water supply is the Sanzar River. Type of reservoir: cut-off river reservoir. Year of commissioning: 1973. Normal water surface (NWS) is 372.5 m. Total volume: 100.0 million m3. Useful volume: 96.0 million m3. Dead volume: 4.0 million m3. (Fig. 14.).

Fig.14. Jizzakh reservoir

Mirror area: 13.75 km2. Length: 3.3 km. Width: 5.6 km. Maximum depth: 24.0 m. The height of the earthen dam of the reservoir is 20.0 m, length 5500 m.

Zaamin reservoir. The source of water is the Zaaminsu River. By type, it refers to run of the river reservoir. It was commissioned in 1987. The normal water surface (NWS) is 917.0 m. Total volume: 51.0 million m3. Useful volume: 30.0 million m3. Dead volume: 20.0 million m3. (fig. 15.).

Fig 15. Zaamin reservoir

Mirror area: 14.0 km2. Length: 3.24 km. Width: 0.78 km. Maximum depth: 73.0 m. The dam of the reservoir is earthen with a screen and a core. Its height is 73.5 m, length 408 m.

Karaultepa reservoir. The source of water in the reservoir is the Eskituyatartar Canal. Type of reservoir: cut-off river reservoir. It was commissioned in 1983. The normal water surface (NWS) is 818.0 m. Total volume: 53.0 million m3. Useful volume: 50.0 million m3. Dead volume: 3.0 million m3. (Fig. 16.).

Fig.16. **Karaultepa reservoir**

Mirror area: 8.5 km2. Length: 2.0 km. Width: 4.7 km. Maximum depth: 43.0 m. Dam type: Earth dam. Height 51.0 m. Length 265 m.

Also on the territory of the region there is an irrigation channel belonging to the zone of new irrigation of the Hungry Steppe - the Southern Hunger Steppe Channel named after V.I. Lomonosov. Sarkisov Canal (eastern part of the region) and its branches. The Southern Hungry Steppe Channel named after V.V. Lomonosov (eastern part of the region) and its branches. Sarkisov Channel is located in the north of Zaamin district, on the border of the district with the Syrdarya region. Further the Channel together with its branches passes through the territory of Jizzakk district. The Channel provides water to three massifs of the new irrigation zone in the country (area 301.9 thousand hectares). Starting from the Farhad hydroelectric station, the channel runs in the latitudinal direction from east to west, approximately parallel to the Havast-Jizzakh road, gradually moving away from it in the west. The total length of the channel is 127 km. Flow rate 300 m3 / s. Up to 103 km, the channel is laid in an earthen bed, then to the end - in concrete cladding. Also, the irrigated lands of Jizzakh region of the old zone are irrigated from the Sanzar River, which, as noted above, is fed through the Eski Tuyatartar channel. The Sanzar River flow is regulated by the Jizzakh reservoir. The irrigation network on the lands of Jizzakh region is mostly made of concrete cladding, reinforced concrete trays and closed pipelines. The drainage network is represented by horizontal closed and vertical drainage.

According to the Water Pollution Index (WPI), the surface water quality of the Jizzakh region is divided into two categories (Fig. 17):

- satisfactory (1.1-3.0) - characterized by an admixture of wastewater. These waters can be used in fisheries and, when using modern purification methods, can also be used for household and drinking purposes;
- poor (3.0-5.0) - water polluted as a result of adding industrial and municipal wastewater, collector-drainage water and return water from the irrigated area. Such water is not suitable for public utilities. It can be used for irrigation.

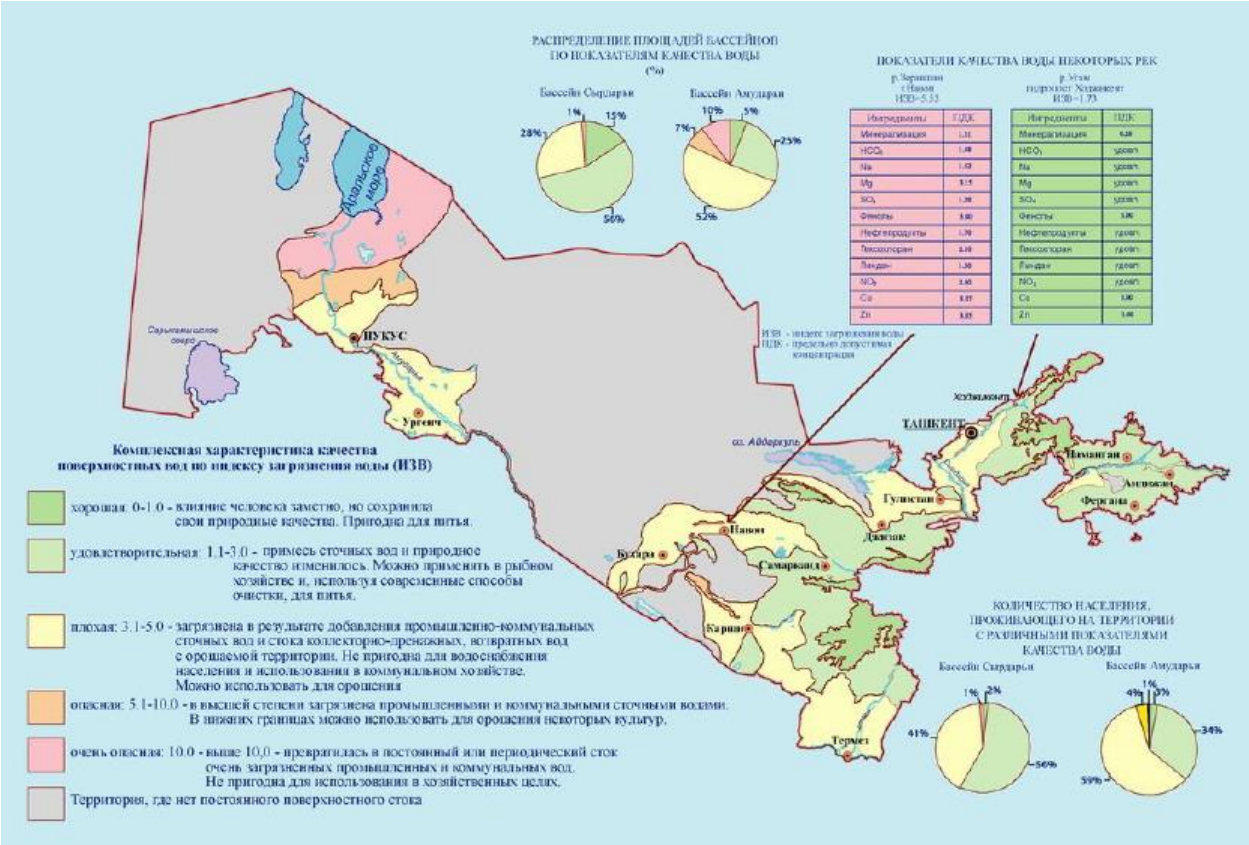


Fig.17. Map of complex characteristics of surface water quality according to water pollution index (WPI)

187. ***Hydrogeological conditions***. In Jizzakh region, groundwater in the plain area is close to the surface, the depth of groundwater does not exceed 3-4 m. Ground waters are mineralized, coming to the surface, they cause soil salinization. With the increase of the terrain height the depth of groundwater occurrence increases, on foothills and plains it is 10-25 m, at the same time the degree of salinization decreases. Ground waters in mountainous areas are connected with river valleys and are shallow (4-5 m), have high taste characteristics.

In the mountainous and foothill areas of the Jizzakh region, 209 downstream spring with cold waters were recorded, which are confined to the Nurata-Turkestan group of hydrogeological massifs. The northern spurs of the Turkestan ridge are characterized mainly by the distribution of fissure, fissure-karst and fissure-vein groundwater, which form springs in shales, limestones and sandstones of Silurian. Spring outcrops, confined to quaternary sediments, are observed locally in sais. In the high mountain zone (abs. Elevations of 2500-3360 m), flow rates of springs are from 1.2 to 10 l / s, mainly 1.5-2.5 l / s. Calcium hydrocarbonate waters with a mineralization of 0.1-0.28 g / l and a total hardness of 1.5-3.0 mEq / l. Springs are partially used for drinking and watering livestock; there is no capturing of springs. In the mid-mountain (abs. Elevations of 1500–2500 m) and low-mountain (abs. Elevations of 785–1500 m), the flow rates of springs are 6–8 l / s. Hydrocarbonate-calcium and sodium-calcium waters with a salinity of 0.14-0.41 g / l and a total hardness of 1.75-5.8 mEq / l. About 30-40% of the total number of springs is used for drinking and watering livestock; spring damming in most cases is absent. Fracture, fissure-karst, fissure-vein and pore waters associated with shales, Silurian limestone, Devonian and Quaternary sediments are widespread in the Malgusar mountains. Spring flow rates are 1-10 l/s (mainly 1.2-3.5 l/s); water is hydrocarbonate-calcium with mineralization of 0.22-0.54 g/l and total hardness of 3.1-5.8 mg-eqv/l. Springs confined to quaternary sediments of the sais are characterized by a flow rate of 1.8-20 l/s, with an increase in salinity up to 0.64-0.88 g/l, with a total hardness of 7.4-9.3 mg-eqv/l (Fig. 18.).

Fig.18. Map of the springs of Jizzakh region

Springs of the Malguzar Mountains are used for domestic and drinking purposes, watering of livestock, irrigation; a small part of the springs are capped with boulders and broken stone. All available springs of the Koytash mountains are used by the local population for household and drinking purposes, for watering livestock and irrigation, in most cases there is no spring collection. In the spurs of the Nuratau ridge, hydrogeological conditions similar to those in the Malguzar and Koytash mountains are noted: springs with a flow rate of 1.2-5 l / s, hydrocarbonate-calcium water with a salinity of 0.2-0.44 g / l with a total hardness of 3.1- 6.5 mEq / L. In general, it can be said that the groundwater in the plain part of the region lies high enough and highly mineralized, which causes the development of saline soils. The depth of groundwater increases with increasing elevation, which simultaneously reduces the degree of salinization of soils.

188. ***Soils and subsoils***. In the Jizzakh region, a large part of the plain territory is occupied by light gray soils. In the Hungry Steppe, these soils are saline, loamy and clayey in terms of mechanical composition, while at the northern foot of the Nurata Ridge they are eroded skeletal or cartilaginous and pebbly loamy soils. In the east of the Hungry Steppe, meadow sierozem soils, saline and slightly saline soils are developed. A characteristic feature of light sierozems is the presence of small reserves of humus (11.8%), and, accordingly, nitrogen. High carbon content and alkaline reaction promotes the transition of phosphorus into hardly digestible forms. In addition, light sierozems are subject to secondary salinization during irrigation. The main reasons of soil salinization are connected with unsatisfactory drainage due to the lack of optimal collector-drainage network, lack of leaching and agrotechnical measures, evaporation of filtered waters reaching the gypsum horizon.

In the extreme north of the plain territory of the region semi-fixed sands with spots of desert sandy soils are widespread. In the south of the region, on the slopes of the Turkestan ridge and its spurs, the soil cover has a vertical zonality. Typical sierozems, clay and loamy, sometimes eroded soils are widespread in the foothills and in hilly foothills up to a height of 1000-1200 m. In the high foothills at an altitude of 1200-1400 m, dark clay and loamy gray soils are developed, mainly eroded. Brown clay and loamy eroded prevail in the middle zone of the mountains within the altitudes of 1400-2500 m, in some places - gravelly soils and brown mountainous loamy or gravelly soils. Over 2500 m, brown eroded gravelly soils are common among rocks and screes and have small spots - light-brown high-mountain soils, gravelly, with rock outcrops. In the eastern part of the Nurata ridge, which is part of the Jizzakh region, vertical zonation has limited development, since the height of the mountains does not exceed 2000 m.Typical foothills and the lower belt of the Nurata mountains are typical and dark gray soils, in the middle zone of the mountains and on the watershed - brown soils. Due to the desert climate of this mountain range, the soils here are skeletal, thin, highly eroded with frequent

outcrops of bedrock. In the north-west of the region, sands and the salt marshes and takyrs[10] located between them occupy a significant area. Around the lakes Aydarkul, Tuzkan, Arnasay, the soils are saline and waterlogged. Typical, dark sierozems, brown soils are common in the foothills and mountains.

Typical sierozems are confined to higher areas of foothill plains and hilly foothills, forming the middle zone belt. The humus profile is more distinct, gray and pale grey; the content of humus in its upper part is 1.5-2.5 %, in arable soils - 1.0-1.5 %. The profile is wetted by precipitation up to 1.5 m. Slightly saline genera are less common than among light sierozems. Brown soils are developed under the cover of shrubbery, cereals and various grass vegetation on clays, loams, yellow-brown, eluvium and dense bedrock. The humus content of brown soils averages 5-8%. Turkestan ridge and mountains Malguzar and Chumkartau reach a height of 2500-3000 m, composed of shale, limestone, sandstone and conglomerates. The Nurata mountains within the Jizzakh region do not exceed 2000 m, are composed of shale and granite. Among the natural riches of the region there are deposits of marble, limestone and gypsum. Non-ferrous metals are found in mountainous areas.The northern foothills of the Turkestan Range and Malguzar represent a undulating loess plain.In Jizzakh region, light and typical sierozems and meadow-sierozem soils of plains, meadow and meadow-marsh soils of river valleys are used for irrigated agriculture or are the lands of perspective development. Typical and dark eroded sierozems of foothills and low mountains are used for grazing and rainfed. Brown soils of the middle mountain belt are used as pasture lands. As the area under consideration is a rather developed agricultural region, it is necessary to take into account the contamination of irrigated soils with pesticides. According to the average data from 2000 to 2006, soil contamination with pesticides in Jizzakh region was 0.04 mg/kg (slightly polluted). This is a favorable factor for further development of agriculture in the region.

189. ***Vegetation and wildlife***. The natural vegetation of the Jizzakh region occupies an area not suitable for plowing. In the north of the Jizzakh region, ephemeral juzgunniks with an admixture of singrene and white saxaul prevail on fixed and semi-fixed sands, and wormwood and saltwort prevail on gravel and saline areas. At the northern foot of the Nurata ridge, ephemeral wormwoods prevail on gravelly light gray soils. On the undulating plain of the northern foothills of the Malguzar mountains and the Turkestan ridge, on light gray soils, ephemeral-ephemeroid vegetation is widespread, which is replenished by representatives of drought-resistant perennial motley grasses – scurfy pea, cousinia, and phlomis as the mountains approach. In the hilly foothills of the Turkestan ridge and in the low mountains of Nuratau, on typical sierozems, perennial drought-resistant motley grass prevails over ephemeroids and ephemeroids. In the high foothills and middle belt of the Turkestan ridge, Malguzar and Chumkartau, in the middle belt and in the watersheds of Nuratau within the limits of heights of 1200-2200 m on typical and dark sierozems and partially on brown soils ephemeroid couch grasslands with wormwood are widely developed. Due to the dryness of these mountainous areas, mesophytic motley grasses and large grasses are not widespread here.

On the Turkestan ridge and its spurs, in the upper reaches of the rivers Sanzar and Zaaminsu, at altitudes exceeding 2000 m, a typical type of vegetation is juniper, alternating with areas of wheat grassland steppes, and in drive-separated parts - with the typical steppe vegetation and mountainous xerophytes. Juniper forests in the upper reaches of Sanzar and Zaamin are protected. Highland vegetation has very limited development and is represented by spots of alpine meadows on the ridges of Turkestan ridge, Malguzar and Chumkartau, exceeding 2500 m. Most of the region is inhabited by animals that have adapted to anthropogenic conditions. Rodents include jerboas, gophers, turtles, lizards and snakes. In sparsely populated areas one can meet predatory animals - wolf, fox, badger. Large mammals live in the mountains and foothills of the southern part of the region: mountain goat, wild sheep, saiga, wolf and fox, from birds - quail, nightingale, partridge, vulture, falcon, hawk, golden eagleA unique fauna has been preserved on the territory of Zaamin and Nurata reserves, which are located in the mountainous region of the region.

The Zaamin Nature Reserve was established in 1960 with the aim of preserving the unique natural juniper forests with their flora and fauna. Its area is 26.8 thousand ha, of which 4161 ha are covered with forest. The reserve is located in the Jizzakh region of Uzbekistan. The territory is a clearly defined mountain range, slightly lowering from east to west, covering the mid-mountain and high-mountain zones of the ridge at an altitude of 1760 to 3500 m above sea level. The southern part of the territory is the steep slopes of the Turkestan ridge, cut by deep narrow gorges. The northern part has a more smooth relief with terraces covered with a thick thickness of marls and loesslike loams. The soils of the reserve are represented by dark gray soils, brown,

[10] dry-type playa

meadow and floodplain-alluvial. The climate of Zaamin Reserve is sharply continental, the average annual rainfall, according to many years of data, is 405 mm. Most precipitation falls in October, January and April. The highest air temperature occurs in July and August, when the absolute maximum is + 33o, in December-January it drops to –34o. All mountains are characterized by sharp fluctuations in day and night temperatures and the return of cold weather after spring warming. Such severe climatic conditions allow only drought-resistant and frost-resistant trees and shrubs to grow here.

Several hundred plant species grow in the reserve, including dozens of the most economically valuable ones: medicinal, resinous, tannin, tinctorial, essential oil, fruit and berry, and feeding which are a valuable genetic fund: Centaurea pseudosquarrosa, bindweed, Olga's phlomis, Turkestan sedge, wheat grass, sheep fescue, gentian, yarrow, awnless brome, cocksfoot, bluegrass, vetch, Tien Shan alfalfa, astragalus, ferula, Hissar dandelion, common cinquefoil, geranium, onion, tarragon, clove, eremurus, prickly thrift, sainfoin, tragacanth, gipsophila, kuzina, juniper, hawthorn turkestan, Fedchenko's rose, Korol'kov's honeysuckle, barberry oblong, cotoneaster multicolor et al. fauna reserve relates to East Bukhara zoogeographical portion. In the mountain-steppe zone, there is a Turkestan agama, Pallas' coluber, a desert lidless skink, glass-snake, juniper tit, Himalayan treecreeper, blue-headed redstart, wolf, tolai hare, common mole-vole.

In the forest belt, you can find a green toad, a lake frog, an Central Asian viper. The juniper zone is especially rich in birds. Oatmeal, accentor, black-throated thrush, redstart, juniper hawfinch, turtledoves, ringdoves, Turkestan eagle owl, tawny owl, Turkestan starling are common in the forests of the reserve. In the gorges with waterfalls live blue birds and blue tit, at the sandbanks - brown and common dippers, sandpiper and wagtail. Large birds of prey settle on the rocks - griffon vultures, black vultures, bearded vulture. In the forest, a brown bear, Turkestan lynx, forest dormouse, Karuters vole, forest mouse and gray hamster take refuge. Stone marten lives in rock outcrops, on scree. The subalpine belt is the poorest in animals. Birds are common here: wheater, pied chat, chough, Himalayan Ular and red-headed bunting are common here. Of the mammals, the permanent inhabitants of the highlands are the Central Asian ibex, common mole-vole, and stone marten.

One of the attractions of the reserve are huge, tall red stones in a clearing in Kyzyl-Ataqsay of various bizarre shapes resembling sphinxes. The local population calls this place “kirkkiz”, which means “forty maidens”. The figures are made up of conglomerates and sandstones. In places they are very polished, in places they have large and small cracks in which different bushes grow. In the reserve in 1978, approximately 120 Central Asian ibexes, 10 brown bears, 6 Turkestan lynxes, and one pair of black stork lived.

190. ***Nurata Nature Reserve*** — nature reserve, located in the altitude range from 530 to 2169 meters in the central part of the Nuratau ridge, Forish district of the Jizzakh region of the Republic of Uzbekistan. The central estate and the head office of the reserve are located near the district center of Yangikishlak. Before the collapse of the Soviet Union, the reserve was administratively subordinate to the Ministry of Forestry of the Uzbek SSR.

The objects of protection on the territory of the reserve are: Ovis severtzovi, gray monitor lizard, carpenter bee, griffon vulture, swallowtail, northern wolw snake, Central Asian cobra, black stork, black vulture, saker falcon, golden eagle, snake eagle, booted eagle, bearded vulture, etc. The reserve was founded in accordance with decree No. 530 of December 4, 1975 "On the organization of state reserves and wildlife reserves in the Uzbek SSR" [4]. The main purpose of organizing the reserve was genetic conservation of the walnut and restore the livestock of the endemic subspecies of Severtsov's ram (Ovis ammon severtzovi), listed in the International Red Book and Red Book of the Republic of Uzbekistan. At the time of creation, the total area of the reserve was 22 537 ha. In 1979, in accordance with the land allotment act, the territory of the reserve was cut to 21 137.5 hectares, but then two sites were added to the reserve: in the Razmas tract (more than 900 hectares) and in the Hayat tract (6 000 hectares). The climate in the reserve is continental dry and warm. The Nuratau Mountains are adjacent to the the Kyzylkum desert, which has a great influence on the climate of this ridge, contributing to its aridization. The low altitude of the Nuratau ridge does not create obstacles for wet air masses that bring precipitation to Central Asia. However, humid springs and streams in the mountains create a sharp contrast with the dry desert stretching from the foothills. Here, in the hottest summer, it is humid and cool. In winter, on the other hand, the cold air is often fogged down into the lower belt of the mountains, foothills and desert, and in the mountains there is clear sunny weather. The average annual temperature in the lowland part of the reserve is 15 - 20oC, the average temperature in January is 1 - 8oC. Winters are moderately cold here, with snowfalls and frosts alternating with long thaws and rainy and windy periods. The minimum

registered temperature is 32°C. Precipitation mainly occurs in winter and spring. The average annual precipitation is 400 mm. Spring is short, warm and rainy, and sometimes frosts and even snowfalls occur. Summers are long, dry and hot, with an average July temperature of 29.4°C and total solar radiation of 130-140 kcal/cm^2.

The territory of the reserve is crossed by ten large and small, bearing streams, carrying their clean and clear waters towards Lake Aydar. Small rivers flowing in the spring from the low mountain ranges of Nuratau, for the most part, have the nature of temporary streams. Only the most watery of them, flowing down from the southwestern slopes of the ranges, are able to bring their waters to Akdarya - one of the branches of Zarafshan. In the central part of the Nuratau ridge there are many springs that function only in the spring. Of the flora of the reserve, 29 species are listed in the Red Book of the Republic of Uzbekistan, 3 species of them are eremurus, 3 species of onions, 5 types of tulips, 5 types of astragalus, etc. But the ancient woody and shrubby thickets of deep gorges are especially rich. Here, as a result of the centuries-old activities of people engaged in gardening, a unique cultural landscape has been formed - forest gardens. In forest gardens, walnuts are the main forest-forming species. As a rule, it is accompanied by the wild Sivers' wild apple, white and black mulberries, apricot, cherry, plum, grapes, pear, poplar, willow, elm, Chinara oriental and, finally, very rare in Central Asia - oriental arborviate. The largest thousand-year-old tree of the reserve Oriental arborviate grows in the largest in length sai - Mejerum. In the circumference, its trunk reaches 8.5 m. The fauna of the Nurata Reserve is rich and diverse. There are 34 species of mammals (3 species of insectivores, 8 species of bats, 1 species of hares, 13 species of rodents, 7 species of predators and 2 species of artiodactyls). Among the mountainous species in the reserve are the Turkestan rat, stone marten and Severtsov's ram. Among insectivores, there is an eared hedgehog (in the lower mountain belt) and Brandt's hedgehog (middle mountain belt). Vulpes vulpes karagan and stone marten are widespread among predators. In the upper part of the mountain gorges there is a wolf, and there are occasional steppe cats in the sais. Badger and steppe polecat live in the lower part of the mountains, and there is also a bandage here. Among ungulates, wild boar is widespread, which can be found from foothills to the upper parts of the mountains. Rich vegetation creates favorable conditions for the survival of this species.

Of the mammals, the most interesting is the Severtsov's ram or the Kyzylkum ram. Currently, 1700-1800 individuals of the Severtsov's ram live in the reserve. Outside the reserve, this ram is practically not observed. Fish is represented by only one species: it is widespread in the mountains of Uzbekistan - an ordinary marinka. Fazilman Lake is inhabited by green toads and lake frogs.

Among reptiles, 21 species were recorded. Among them, three species — the gray monitor lizard, northern wolf snake, and the Central Asian cobra are listed in the Red Book of Uzbekistan (2003). Of the reptiles in the lower zone of the mountains, a Central Asian tortoise, a steppe agama, and a rapid fringe-toed lizard live. Glass-snake, spotted desert racer, mountain racer and cliff racer, long-legged skink, blunt-nosed viper are found everywhere, the Turkestan gecko and Turkestan agama are common on the rocks. The top of the Nuratau ridge is not uncommon Central Asian viper and Pallas' coluber. Here, occasionally you can find northern wolf snake and Central Asian cobra. One of the bird migration routes passes through the Nurata reserve. In autumn and spring, the reserve territory literally rings from their many-voiced singing. 196 bird species were recorded in the reserve, of which 103 species nest in the reserve. Of the birds found in the reserve, 9 species are included in the Red Book of the Republic of Uzbekistan. This is a black stork, black vulture, griffon vulture, saker falcon, golden eagle, snake eagle, booted eagle, bearded vulture, houbara. It should also be noted that wild animals are mostly found only in the protected areas described above. In addition to the high-mountain protected areas, the territory of Jizzakh region is strongly developed and actively used in agriculture. Accordingly, the fauna is mainly represented by those few species of animals that are adapted to live in the vicinity of humans. And the flora of the region is quite strongly transformed as a result of agricultural development and is represented mainly by ephemero-ephemeroid communities. The degree of anthropogenic disturbance of the vegetation cover of the region is assessed as strong. Natural vegetation cover characteristic of the region can be found in the protected areas and in the highlands in the south of the region.

5.5 Syrdarya region

191. ***Relief.*** Syrdarya region is located in the central part of Uzbekistan, on the left side of the Syrdarya river. In the north it borders with Maktaaral and Saryagash districts of South Kazakhstan region of Kazakhstan, in the south with Istaravshan and Zafarabad districts of Sogd region of Tajikistan, in the west

with Jizzakh region, in the east with Tashkent region. Hungry steppe occupies a significant part of the region.

The administrative center is the city of Gulistan.
Total area - 5 100 km ²

The climate is typically continental and arid. Hungry steppe occupies a significant part of the region. The amount of precipitation varies from 130-360 mm per year in the plains to 440-620 mm in the foothills. In the southeast of the region, dry storms and dust storms, damaging crops, blow for several days in summer. The warm period is 247 days, with annual positive temperatures of 5000-5900 °C.
Population - 727 200 (2011)
Railway length - 400 km
Length of roads - 2000 km.

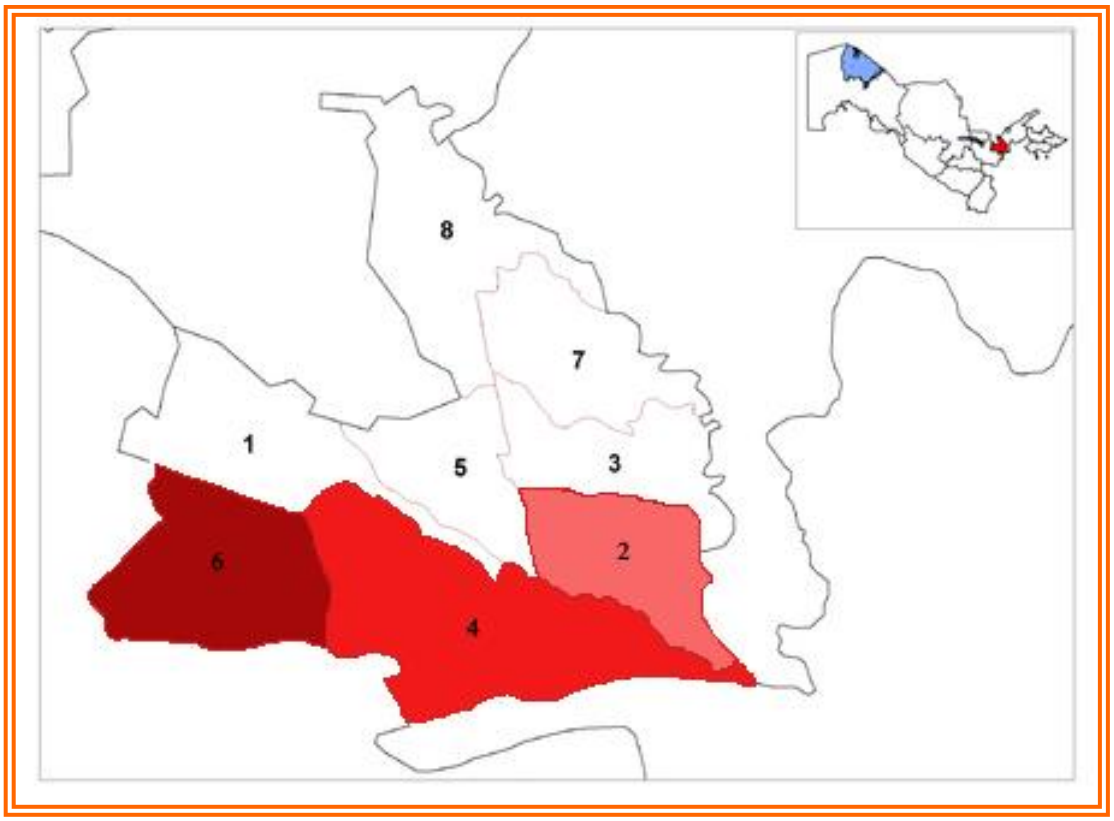


Fig 19. Administrative division of Syrdarya region

The total area is 5100 km².
The area is divided into 8 districts (tumans) (Fig 19)
Akaltyn (1) - Sardoba village
Bayaut (2) - Bayaut village
Gulistan (3) - Dehkanabad village
Mirzaabad (5) - Navruz village
Saikhunabad (7) - Saihun village
Sardoba (6) - Pakhtaabad village
Syrdarya (8) - Syrdarya city
Khavast (4) - village Khavast
and 3 cities of regional significance: Gulistan, Yangier, Shirin.

The Syrdarya region is located on the plain of the Tashkent-Hungry steppe depression, which is divided into two parts by the Syrdarya river - northern and southern. The northern part of the depression belongs to the Tashkent region (the valley of the Chirchik and Akhangaran rivers), and the southern part to the Syrdarya region (The Hungry Steppe). The hungry steppe is the southernmost part of the depression and is formed by

the terraces of the Syrdarya. The third, the highest terrace of the Syrdarya - the Hungry Steppe Plateau - gradually rises to the south and merges with the foothills of the Turkestan Range.
The northern slopes of the Turkestan ridge are strongly dissected. Numerous sais dissecting the slopes, going out onto the plain, form extensive drift cones, due to which the southern part of the Tashkent-Hungry steppe depression. Absolute elevations of the plain range from 200 to 500 m.

192. ***Climate*** The most common and characteristic features of the climate in the Syrdarya region are its sharp continental and aridity, as well as abundance of heat and light during the entire vegetation period. Low precipitation in the plain territory is characterized by its aridity. On average, 261-316 mm of precipitation falls here during the year. The western desert part of the territory is the least humidified by precipitation. Precipitation occurs mainly in the autumn-winter-spring period. The maximum amount of precipitation falls on March. In summer, rainfall occasionally falls. Winter is characterized by extreme instability. During the winter period, significant cloud cover is observed, frequent precipitation, severe cooling alternate with significant warming. The coldest month is January. The average January temperature in the territory varies from 0.1 ° to -2.9 ° C. The lowest values of the average of the absolute minimum air temperature are observed in the northern part of the Syrdarya region (-18, -20 ° C). The absolute minimum air temperature ranges from -29 to -35 °, and in the area of the Yangiyer station it is -28 °, which is due to the often repeated warm foehn winds characteristic of this area.

The snow cover is unstable, during the winter it repeatedly forms and melts. Only in some years can stable snow cover be observed, which is not less than a month in a row. The average number of days with snow cover during the winter is 30-34. The average snow depth is 8-12 cm. With a significant decrease in air temperature and low snow cover, frosty soils are observed. The greatest depth of freezing is reached by 30-40 cm. The duration of the warm period with air temperature above 0° on the territory of the Syrdarya region is on average 330 days. Frost-free period on average occurs at the end of March and ends in December, its duration is 190-210 days. The longest duration of the frostless period, equal to 232 days, is noted in the area of Yangiyer station. Summer is hot and dry. The warmest month is July. The average monthly temperature in July varies from 25.8 to 30.0 ° C. The absolute maximum can reach 44-47 ° C. For most of the year, clear, cloudless weather is established on the territory of the region. The greatest number of clear days is observed in August and reaches 27-29 days. In October, the number of clear days varies from 24 to 26 days. The most overcast is the winter-spring period. The maximum number of cloudy days in this period is 12-16. In summer, mostly overcast days are not observed. Most of the year, north-east winds prevail in the region. Northern winds prevail in summer.

The condition of atmospheric air is determined by the emissions of mobile and stationary sources and the conditions of their dispersion. Syrdarya province is an agricultural region, where cotton growing and crop production are widely developed. Mobile sources of emissions mainly include emissions from roads of both local (ground) and district and regional importance (asphalted), therefore emissions of harmful substances contain suspended solids, sulphur dioxide, carbon monoxide, nitrogen dioxide, ammonia, etc. But the level of atmospheric pollution in the region does not exceed the permissible norms.

193. ***Surface water.*** The Syrdarya River is the main and largest water source in the Syrdarya region. It flows along the north-eastern border of the region. The width of the Syrdarya valley in the region is 15 km. The banks of the river are cliffed. There are many abandoned loops in the valley. Some of them turned into lakes, others into swamps. In winter the river can be covered with ice on the territory of the region. Numerous channels that supply water to the Syrdarya region depart from the Syrdarya River (Fig. 19).

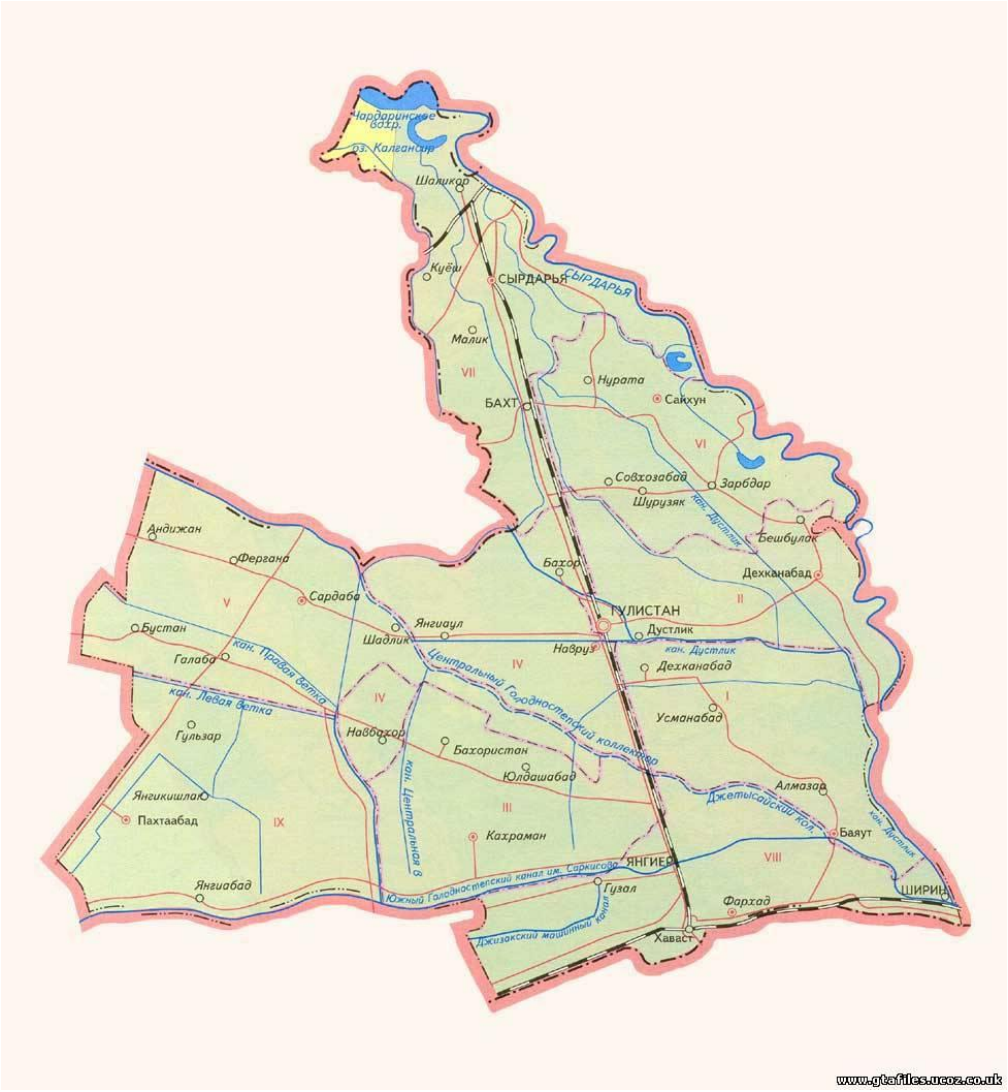


Fig.19. Map of the Syrdarya region with the administrative boundaries of the districts and the existing irrigation network

Except for the Syrdarya, there are no permanently flowing natural waterways in the region. The flow regime of the Syrdarya river is characterized by the features inherent in the rivers of snow-glacial feeding. The annual distribution of water runoff is as follows: the lowland covers the period from the second half of September to March. At this time, the minimum values of water discharge are observed. The lowest values are observed in October. A significant increase in flow starts in April, with June being the wettest month, during which about 28% of the annual flow takes place. Average duration of floods is about 180 days. But it is necessary to take into account that the flow of the Syrdarya river in the considered section is strongly distorted due to the fact that it is strongly regulated by the reservoirs put into operation above. In terms of the chemical composition of the Syrdarya river water, it belongs to the rivers with soft (during the flood period) and moderately hard (during the low water period) water. Salinity varies from 50 to 200 mg/l during the year. The river water is suitable for drinking with respect to conditional indicators. However, the quality of water for drinking is decreasing due to the increase in the content of organic substances, pollution from industrial and domestic wastes and toxic chemicals used in agriculture.

After the completion of the construction of the Farkhad HPP (near the town of Shirin on the border of the Syrdarya region of Uzbekistan and the Sogd region of Tajikistan), the Hungry Steppe was supplied by the Farkhad hydroelectric complex. The following irrigation canals run through the territory of the region: 1. The Southern Hungry steppe Channel named after Sarkisov (south of the region), Central Hungry steppe Channel with branches (central part of the region), Zhetisay collector (southeastern part of the region), Dustlik channel (eastern and central part of the region. In the northeast of the region, the Dustlik (Dostyk) channel flows through the territory of the Gulistan and Saykhunabad districts. It starts from the discharge channel of the Farkhad hydroelectric station on the Syrdarya river. The length is 113 km, of which 49 km pass through the

territory of Kazakhstan. Flow rate 230 m³ / s. The channel was built as a gravity channel, in an earthen channel. Since 1992, the withdrawal of water into the Dustlik channel from the Syrdarya River has been regulated by intergovernmental agreements that establish an annual limit on water consumption for each of the participating countries. However, the agreements reached are not fully respected. This causes the greatest damage to the farmers of Kazakhstan, as the most remote from the water intake.

Southern Southern Hungry steppe Channel named after Sarkisov provides water to three massifs of the new irrigation zone in the republic (an area of 301.9 thousand ha). Starting from the Farkhad hydroelectric station. The channel passes in a latitudinal direction from east to west along the territory of the Bayaut, Khavasts, Sardoba regions, approximately parallel to the Hawast-Jizzakh road, gradually moving away from it in the west. The total length of the channel is 127 km. Flow rate 300 m3 / s. Up to 103 km, the channel is laid in an earthen channel, then to the end - in concrete cladding. Irrigation of the southwestern and western parts of the region is carried out by the branches of the Southern Hungry steppe Channel - the Central branch and its two branches - Left and Right. The channel simultaneously serves as a catastrophic discharge from the Southern Hungry-Steppe Channel. The left branch channel flows in the western part of the region along the border of the Akaltyn and Sardoba regions. The irrigation area of the Left branch channel is 68.6 thousand ha. The right branch channel flows through the territory of the Akaltyn district of the Syrdarya region. Channel irrigation area is 68.4 thousand ha.

The largest drainage artery in the region is the Central Hungry Steppe collector, passing through a natural depression, dividing the Hungry Steppe in the north-western direction into two parts. The central Hungry Steppe collector runs along the border of the Mirzaabad and Khavast districts of the region, as well as in the west along the border of the Akaltyn and Mirzaabad districts. The annual flow rate of the Central branch is 164.0 m3 / s. The Central Hungry Steppe collector also has a branch in the form of a Central Branch channel, which, crossing the eastern part of the Akaltyn district, irrigates the eastern part of the territory of the Khavast district. This collector also serves as the boundary between the old and new irrigation zones. Its length is 85 km, the depth is 3-7 m. The catchment area reaches 335 thousand ha, the drainage flow is 42 m3 / s, the throughput at the mouth is 90 m3 / s. The collector discharges water into the Arnasay depression. From the old irrigation zone, the Central Hungry Steppe collector receives the waters of the Zhetisay, Bayaut collectors (Bayaut district) and, with the help of machine pumping, the Sardoba collector. Also in the south of the region, the Jizzakh Machine Channel runs through the territory of the Khavast district, which has several branches - Machine Channel 1 and Machine Channel №2. According to the Water Pollution Index (WPI), the quality of surface water in the Syrdarya province is poor (3.0-5.0) - water polluted as a result of the addition of industrial and municipal wastewater, collector-drainage water runoff and return water from the irrigated area. Such water is not suitable for water supply of the population in public utilities. It can be used for irrigation (Fig. 20.).

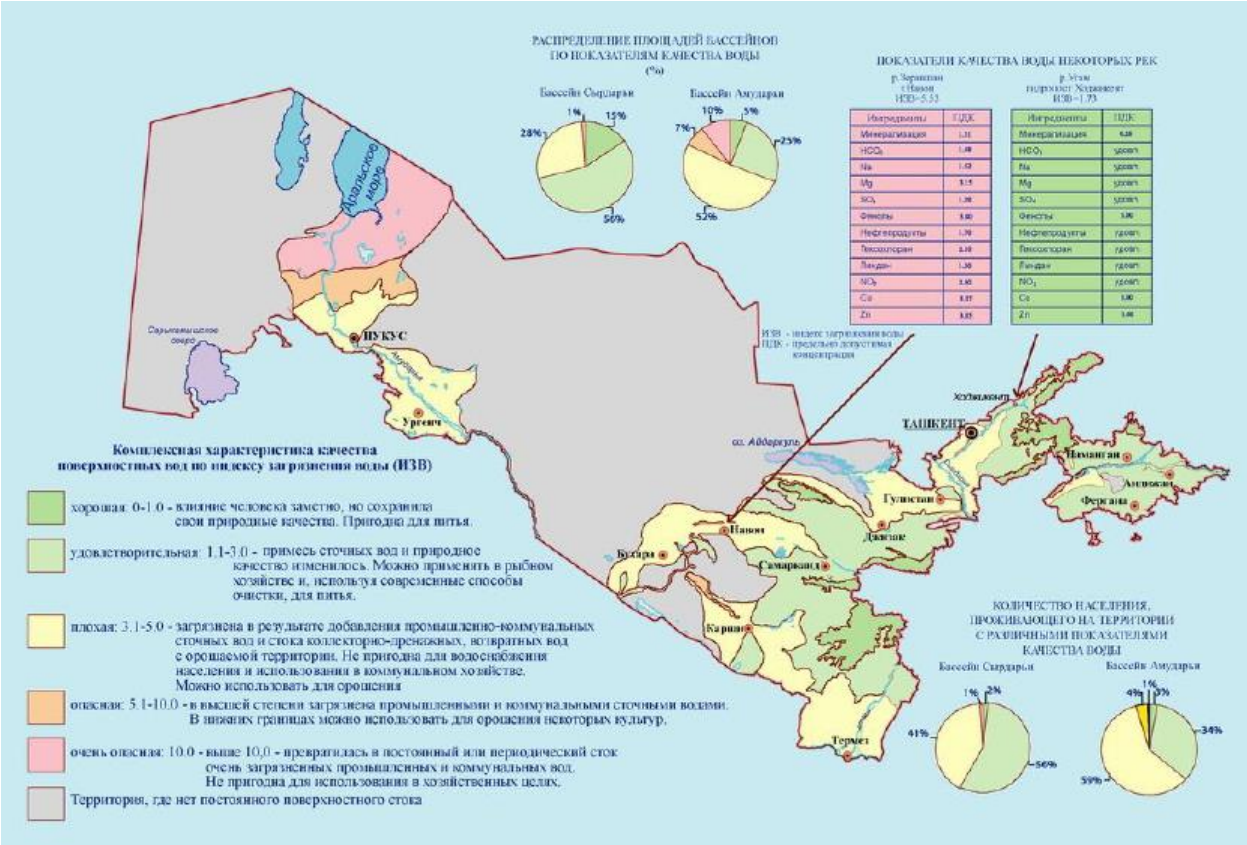


Fig.20. Map of complex characteristics of surface water quality by water pollution index (WPI)

In general, we can say that, despite the lack of natural water bodies, the Syrdarya region has a developed irrigation network, which is spread over its entire area, which allows growing crops here.

194. ***Hydrogeological conditions*** In lowland areas of Syrdarya province, groundwater occurs at depths of 0.5-1.0 m to 3-4 m. There are territories with groundwater occurrence from the land surface from 8.0 to 10.0 m. In spring, groundwater is the closest to the surface, sometimes reaching the surface. They have the deepest occurrence in autumn and winter. In some places ground waters are strongly mineralized and coming to the surface cause soil salinization. The main source of ground water supply in the region is the river. The Syrdarya River and the South Hungry steppe Channel. Their underground inflow is large, precipitation plays an insignificant role, and the time of their participation in groundwater recharge falls in December-January. The Syrdarya River is a natural drainage system. The entire alluvial valley of the Syrdarya River belongs to the area of impeded groundwater inflow and outflow, with unstable depth and regime, depending on local conditions. The most difficult groundwater outflow conditions approaching the conditions of a drainless groundwater basin are characterized by the Sardoba Depression and the Shuruzyak depression, where groundwater lies closest to the surface of the earth and is highly saline.

The processes of swamping and excess moisture within the region are developed in the lowest areas and have a fairly significant distribution near the Dustlik channel. On the territory of the Syrdarya region, 9 downstream springs with cold waters, confined to Silurian schists, as well as to Pliocene-Quaternary gravelites, conglomerates, sandstones and gravel-pebbles, gravels, were also recorded (Fig. 21.). The exits of the springs are noted along the sides and in the channels of the Khojamushkent, Saganak, Sarmich and Ura-Tyube sais near the southern border with the Republic of Tajikistan (abs. Elevations of 580-1030 m, low mountain zone). The flow rates of springs are 2-10 l / s, water is hydrocarbonate-calcium and sodium-calcium with a salinity of 0.36-0.7 g / l, with a total hardness of 4.5-8.15 mEq / l and a temperature of 14-15 °C.

Fig.21. Map of the springs of the Syrdarya region

At present, spring water is fully used for domestic and drinking purposes, watering of livestock and irrigation. Captured by weirs and concrete gutters. In general, we can say that groundwater in the region is quite high and in some areas of the central part of the region is quite mineralized, which causes salinization of the soil cover and development of saline soils. Spring waters suitable for drinking are mainly concentrated in the south-eastern part of the province near the border with Tajikistan. These springs can be used for bottling if the necessary infrastructure is in place.

195. ***Soils and subsoils*** Types of soils forming the territory of the Syrdarya region change from north to south. The northeastern part of the region, confined to the valley of the Syrdarya River, is composed of meadow-oasis soils of the serozem belt. They have a clearly defined structure. Soil salinization is not widespread. These soils are long used for irrigated agriculture of soil-capillary moistening, developed on river terraces. The humus content in the arable horizon of these soils is 1.5-2.0%. In the central part of the region there are mainly serozem-oasis saline loams, lying on alluvium and proluvia. However, there is also an area where saline soils are developed. Sierozem-oasis soils include soils that have been significantly altered by irrigated agriculture and have completely lost the structure of the sierozem profile from which they were developed. They are characterized by high capacity and monotonous brown-grey coloring. The characteristic properties of this type of soil acquired during the development process are clearly expressed argillization.

Saline soils are common in the area where there is a permanent capillary salt outflow from nearby, mostly saline groundwater, which is not counteracted by washing. Here there is a large accumulation of salts, especially in the upper soil horizon. Saline soils form on the surface "puffy" or crust, in which from 3 to 20% of salts. The humus content of this type of soil is less than 1%, except for secondary saline soils, where humus from the previous period of soil formation can be preserved. In the western and southern parts of the Syrdarya region, meadow soils of the serozem belt (saline clay and loamy on alluvium and proluvia) are mostly developed. This type of soil develops due to capillary moistening from shallow groundwater (most often 1-3 m). The content of humus in the upper horizon is low (in the range from 1.5 to 2.5%).With the development of irrigation, some areas that were previously well-drained have seen an increase in the ground level, which causes soil salinization. It should also be taken into account that Syrdarya province is a developed agricultural district of the republic. Therefore, it is necessary to take into account the contamination of irrigated soils with pesticides. According to the average data from 2000 to 2006, soil contamination with pesticides in the Syrdarya province is 0.10-0.12 mg/kg. Pesticide concentration in soils is quite strong, which is a negative factor for the impact on soil cover in the region.

196. ***Vegetation and wildlife***. Most of the plain areas of the Syrdarya region are occupied by oases, where natural vegetation has long been replaced by cultural vegetation. Natural vegetation has been preserved here only in areas that are unsuitable or less suitable for use. Natural vegetation has also been preserved in the depressions occupied by saline soils (various types of saltwort), in the swampy areas of the Syrdarya river floodplain (reed, sedge, etc.). Feed value is represented by ephemeral-ephemeroid cereals and some saltwort. Thus, the natural flora of the Syrdarya region is represented by ephemeris - *Carex pachystylis*, spotted hemlock, poppies, wild grass (annual wormwood), which grow rapidly and develop in the short spring period. In May, the heat begins and the plants dry up. Only drought-resistant plants remain - wormwood, feather grass, camel thorn.

In Syrdarya region, agriculture is of great importance. Agricultural lands occupy more than half of all arable lands. Arable land (32%) occupies a significant area. More than half of the sown area is irrigated. In Syrdarya province, about 40% of arable land is rain-fed. Also in the region two thirds of agricultural lands are pastures. In Syrdarya province, sheep breeding is developed in desert areas. The leading branch of agriculture is cotton growing on irrigated lands. Vegetable growing, melon growing, horticulture, viticulture also play an important role in the suburban area. In rainfed areas, the main crops are wheat, barley, millet. Mammals within the area are: house mouse, grey rat, red tailed gerbil, mole vole, common bat, eared hedgehog, lesser white-toothed shrew, Aral yellow-souslik, marbled polecats, jackal, fox. Birds are represented by: tree sparrow, Indian sparrow, turtle dove, European swallow, black swift, myna, desert finch, Iduna rama, little green bee-eater, Egyptian nightjar, crested lark, roller, hoopoe, rufuous-backed shrike, little owl.

Reptiles are mainly represented by grey gecko, desert lidless skink, rapid fringe-toed lizard lizard, steppe agama, mountain racer, cliff racer, Pallas' coluber. In the riparian forests off the Syrdarya River you can find lynx, wild boar, jackal, pheasants, ducks, geese, and muskrat. Due to the fact that most of the territory is highly developed for a long time and cultivated, the fauna of vertebrates in this region is very poor and is represented by those few species of animals that are adapted to live next door to humans. The vegetation cover of the Syrdarya region has undergone a strong change as a result of human activities and is mainly represented by anthropogenic landscapes (agricultural lands) and secondary weed-ephemeral communities, with fragments of conditionally indigenous communities of ephemeral-ephemeroid and salt marshes. The degree of anthropogenic disturbance of the vegetation cover of the study area is estimated as strong. The natural vegetation cover inherent in this region can be found in the eastern part of the region off the coast of the Syrdarya (tugai) and then partially.

6. SOCIAL ECONOMIC CHARACTERISTICS

197. Uzbekistan, officially the Republic of Uzbekistan, is a doubly landlocked country in Central Asia (Fig 21-22). It is a unitary, constitutional, presidential republic, comprising 12 regions, 1 autonomous republic, and 1 independent city. Uzbekistan is bordered by five countries: Kazakhstan and the Aral Sea to the north; Tajikistan to the southeast; Kyrgyzstan to the northeast; Afghanistan to the south; and Turkmenistan to the southwest. Once part of the Turkic Khaganate and later Timurid Empires, the region that today includes the Republic of Uzbekistan was conquered in the early 16th century Eastern Turkic-speaking nomads. The area was gradually incorporated into the Russian Empire during the 19th century, and in 1924 what is now Uzbekistan became a bordered constituent republic of the Soviet Union, known as the Uzbek Soviet Socialist Republic (Uzbek SSR). Following the breakup of the Soviet Union, it declared independence as the Republic of Uzbekistan on 31 August 1991 (officially celebrated the following day). Uzbekistan is officially a democratic, secular, unitary, constitutional republic with a diverse cultural heritage. The country's official language is Uzbek, a Turkic language spoken natively by approximately 85% of the population; Russian remains in widespread use. Uzbeks constitute 81% of the population, followed by Russians (5.4%), Tajiks (4.0%), Kazakhs (3.0%), and others (6.5%). A majority of Uzbeks are non-denominational Muslims. Uzbekistan is a member of the CIS, OSCE, UN, and the SCO. Uzbekistan's economy relies mainly on commodity production, including cotton, gold, uranium, and natural gas. Despite the declared objective of transition to a market economy, its government continues to maintain economic controls which deter foreign investment and imports in favour of domestic 'import substitution'.[5]

Figure 21. Map of Uzbekistan

198. **<u>Administrative Regions</u>.** Uzbekistan is Central Asia's most populous country and its 31 million people, over one-third of whom are under the age of 14, comprise nearly half the region's total. With a land area of 447,000 km2, about the size of California or Spain, Uzbekistan is the only Central Asian country to border the other four Central Asian States and is one of only two double landlocked countries in the world. It also shares a short border with Afghanistan to the south and Turkmenistan to the south-west. It is 56th largest country in the world and 42nd by population.

199. Uzbekistan consists of 14 regions (regions), including one autonomous republic, Tashkent city and 170 districts. The capital of the republic is Tashkent city (Table 6-7).

Table 6: Administrative-territorial division of Uzbekistan, January 1, 2018

Indicator	Details
Total area, thousand km^2	448.97
Number of districts, units	170
Number of urban settlements, units	1085
Number of rural settlements, units	11013
Number of rural citizens assembly (RCA), units	1470
Number of cities, units	119
Number of population, thousand people, **January 1, 2018**	32 653.9
Rate of urbanization	50.6% (49.4% - rural)
Density of population, persons per 1 km^2, **January 1, 2018**	72.7
Average age of population, years	28.6

Source: State committee on statistics of the Republic of Uzbekistan

Fig 22. Map of Uzbekistan

Table 7: Administrative Setup

Division	Capital City	Area (km²)	Population (2017)[65]	Key
Andijan Region Uzbek: *Андижон вилояти/Andijon Viloyati* Russian: *Андижанская область (Andizhanskaya oblast')*	Andijan *Andijon*	4,303	2,965,500	2
Bukhara Region Uzbek: *Бухоро вилояти/Buxoro Viloyati* Russian: *Бухарская область (Bukharskaya oblast')*	Bukhara *Buxoro*	41,937	1,843,500	3

Division	Capital City	Area (km²)	Population (2017)[65]	Key
Fergana Region Uzbek: *Фарғона вилояти/Farg‘ona Viloyati* Russian: *Ферганская область (Ferganskaya oblast')*	Fergana *Farg‘ona*	7,005	3,564,800	4
Jizzakh Region Uzbek: *Жиззах вилояти/Jizzax Viloyati* Russian: *Джизакская область (Dzhizakskaya oblast')*	Jizzakh *Jizzax*	21,179	1,301,000	5
Karakalpakstan Republic Karakalpak: *Қарақалпақстан Республикасы/Qaraqalpaqstan Respublikasi‘* Uzbek: *Қорақалпоғистон Республикаси/Qoraqalpog‘iston Respublikasi* Russian: *Республика Каракалпакстан (Respublika Karakalpakstan')*	Nukus *No‘kis* *Nukus*	161,358	1,817,500	14
Kashkadarya Region *Қашқадарё вилояти/Qashqadaryo Viloyati* Russian: *Кашкадарьинская область (Kashkadar'inskaya oblast')*	Karshi *Qarshi*	28,568	3,088,800	8
Khorezm Region *Хоразм вилояти/Xorazm Viloyati* Russian: *Хорезмская область (Khorezmskaya oblast')*	Urgench *Urganch*	6,464	1,776,700	13
Namangan Region Uzbek: *Наманган вилояти/Namangan Viloyati* Russian: *Наманганская область (Namanganskaya oblast')*	Namangan *Namangan*	7,181	2,652,400	6
Navoiy Region Uzbek: *Навоий вилояти/Navoiy Viloyati* Russian: *Навоийская область (Navoijskaya oblast')*	Navoiy *Navoiy*	109,375	942,800	7
Samarkand Region Uzbek: *Самарқанд вилояти/Samarqand Viloyati* Russian: *Самаркандская область (Samarkandskaya oblast')*	Samarkand *Samarqand*	16,773	3,651,700	9
Surkhandarya Region Uzbek: *Сурхондарё вилояти/Surxondaryo Viloyati* Russian: *Сурхандарьинская область (Surkhandar'inskaya oblast')*	Termez *Termiz*	20,099	2,462,300	11
Syrdarya Region Uzbek: *Сирдарё вилояти/Sirdaryo Viloyati* Russian: *Сырдарьинская область (Syrdar'inskaya oblast')*	Gulistan *Guliston*	4,276	803,100	10
Tashkent City *Russian: Ташкент (Tashkent)* Uzbek:*Тошкент/Toshkent Shahri*	Tashkent *Toshkent*	327	2,424,100	1
Tashkent Region Russian: *Ташкентская область (Tashkentskaya*	Tashkent *Toshkent*	15,258	2,829,300	12

Division	Capital City	Area (km²)	Population (2017)[65]	Key
oblast') Uzbek: *Тошкент вилояти/Toshkent Viloyati*				

200. **Project Regions**. The RIDP will cover the following regions: Fergana, Namangan, Andijan, Syrdarya and Jizzakh.

201. **Fergana Valley.** With an estimated total population of 14 million in all three areas, the Fergana Valley, located in Uzbekistan, accounts for the largest part of the total population, about 9.3 million people, representing 28% of the total population of Uzbekistan. It has – administrative districts. A quarter of low-income population of Uzbekistan lives in the region, and the average income falls on the lower part of the range of income. There is a part of the most fertile agricultural lands of Uzbekistan in the Fergana Valley, at the same time; there is also a relatively high level of industrial development here compared to other regions of Uzbekistan. Despite good opportunities, development challenges include biophysical (climate change causing weather variability, water scarcity, limited electricity generation capacity); social (increase in labour reserves); and economic (structural transition to a market oriented economic model, uneven growth leading to a development gap between regions) issues.

202. **Sirdarya Region** (Uzbek: Sirdaryo viloyati) is located in the center of the country on the left bank of Syrdarya River. It borders with Kazakhstan, Tajikistan, Tashkent Region, and Jizzakh Region. It covers an area of 4,276 square kilometres (1,651 sq mi),[1] and is mostly desert, with the Starving Steppe taking up a significant part of the region's area. It has nine administrative districts. The population is estimated to be around 803,100. The population of the region is distributed along the main highway, which divides the whole region into two parts: the western and the eastern. The population in mainly Uzbek, with Tajik minorities on the border in the south with Tajikistan (mainly Khavast district). The economy is based on cotton and cereal crops, with strong reliance on irrigation and on cattle breeding. Minor crops include forage plants, vegetables, melons, gourds, potatoes, maize, a variety of fruit and grapes. Industry consists of construction materials, irrigation equipment and raw-cotton processing. Syrdarya contains one of Uzbekistan's largest hydroelectric power plants, which generates one third of the country's electricity.

203. **Jizzakh Region** (Uzbek: Jizzax viloyati) is located in the center/east of the country. It borders with Tajikistan to the south and south-east, Samarqand Region to the west, Navoiy Region to the north-west, Kazakhstan to the north, and Sirdaryo Region to the east. It covers an area of 20,500 km². It has 12 administrative districts. The population is estimated to be around 910,500, with some 80% living in rural areas. The regional capital is Jizzakh (population- 127,500). Other major towns include Dustlik, Gagarin, Gallyaaral (Gallaorol), Pakhtakor, and Mardjanbulak. Jizzakh Region was formerly a part of Sirdaryo Region but was given separate status in 1973. The climate is a typically continental climate, with mild winters and hot, dry summers. The economy of Jizzakh Region is primarily based on agriculture. Cotton and wheat are the main crops, and extensive irrigation is used. Natural resources include lead, zinc, iron, and limestone. Uzbekistan and China are working together to jointly establish a Special Economic Zone in the region.

204. **Population.** The total population of Uzbekistan on January 1, 2018 is 32 653.9 thousand people (Table 8). The share of male population amounts at 50.6% and female population, 49.4% of total. The population in Uzbekistan is mostly concentrated in urban area. The rate of urbanization is 50.6%. The share of rural population is 49.4%. The number of urban population is more than rural population by 413.9 thousand people. As of January 1, 2018, the largest population is in Samarkand region - 11.4% of total population of Uzbekistan, Fergana region – 11%, Kashkadarya region – 10%, Andijan region – 9% and Tashkent region – 9%. Number of people categorized as poor amount to about 12%.

Table 8: Population of Uzbekistan

Year	Population	Yearly % Change	Yearly Change	Migrants (net)	Median Age	Fertility Rate	Density (P/Km²)	Urban Pop %	Urban Population
2019	32,807,368	1.37 %	442,372	-8,863	26.7	2.35	77	35.1 %	11,522,815
2018	32,364,996	1.42 %	454,355	-8,863	26.7	2.35	76	35.0 %	11,334,708
2017	31,910,641	1.48 %	463,846	-8,863	26.7	2.35	75	34.9 %	11,152,328
2016	31,446,795	1.52 %	470,774	-8,863	26.7	2.35	74	34.9 %	10,975,466
2015	30,976,021	1.60 %	473,945	-13,294	26.3	2.38	73	34.9 %	10,804,131
2010	28,606,294	1.53 %	418,822	-28,026	24.5	2.49	67	35.1 %	10,049,933

205. The population of Uzbekistan is very young: 34.1% of its people are younger than 14. According to official sources, Uzbeks comprise a majority (80%) of the total population. Other ethnic groups include Russians 5.5%, Tajiks 5%, Kazakhs 3%, Karakalpaks 2.5%, and Tatars 1.5% (1996 estimates). Uzbekistan has an ethnic Korean population that was forcibly relocated to the region from the Soviet Far East in 1937-1938. There are also small groups of Armenians in Uzbekistan, mostly in Tashkent and Samarkand. The nation is 88% Muslim (mostly Sunni, with a 5% Shi'a minority), 9% Eastern Orthodox and 3% other faiths (which include small communities of Korean Christians, other Christian denominations, Buddhists, Baha'is, and more).

206. **Economy**. Uzbekistan is an agrarian nation with large oil, gas, gold and uranium reserves. The Uzbekistan economy is reliant on the production of cotton and raw materials. The largely Soviet-era infrastructure and industry of the country—roads, irrigation networks, chemical plants, machine factories—were all set up to support the cottons industry. Uzbekistan doesn't produce so many finished goods that anybody wants. The Uzbek economy is in a gradual transition to the market economy, with foreign trade policy being based on import substitution. In September 2017, the country's currency became fully convertible in the market rates. Uzbekistan is a major producer and exporter of cotton. The country also operates the largest open-pit gold mine in the world. With the gigantic power-generation facilities of the Soviet era and an ample supply of natural gas, Uzbekistan has become the largest electricity producer in Central Asia. Renewable energy constitutes more than 23% of the country's energy sector, with hydroelectricity and solar energy having 21.4% and 2% respectively.

207. Uzbekistan has the fourth-largest gold deposits in the world. The country mines 80 tons of gold annually, seventh in the world. Uzbekistan's copper deposits rank tenth in the world and its uranium deposits twelfth. The country's uranium production ranks seventh globally. The Uzbek national gas company, Uzbekneftegas, ranks 11th in the world in natural gas production with an annual output of 60 to 70 billion cubic meters (2.1–2.5 trillion cubic feet). The country has significant untapped reserves of oil and gas: there are 194 deposits of hydrocarbons in Uzbekistan, including 98 condensate and natural gas deposits and 96 gas condensate deposits. In 2011, Uzbekistan was the world's seventh-largest producer and fifth-largest exporter of cotton as well as the seventh-largest world producer of gold. It is also a regionally significant producer of natural gas, coal, copper, oil, silver and uranium.

208. Total unemployment is about 7.5% and under employment 20%. Relativelyt higher unemployment and low wages have resulted in a mass labor migration to Russia and Kazakhstan, while remittances have accounted for about 10-12 percent of the nation's GDP between 2010 and 2013. Since 2013, remittances have continuously declined and their share in GDP has been halved.

209. Facing a multitude of economic challenges upon acquiring independence, the government adopted an evolutionary reform strategy, with an emphasis on state control, reduction of imports and self-sufficiency in energy. Since 1994, the state-controlled media have repeatedly proclaimed the success of this "Uzbekistan Economic Model" and suggested that it is a unique example of a smooth transition to the market economy while avoiding shock, pauperism and stagnation.

6.1 Economic Growth & Setting

210. **Over the last decade, Uzbekistan's economy grew rapidly, was resilient to shocks, and lifted significant parts of the population out of poverty**. According to official statistics, Uzbekistan's 8.2 percent GDP growth rate over the last decade was the highest in the Europe and Central Asia Region (ECA) and one of the eight highest in the world.1 Per capita GNI rose from US$2,020 in 2001 to US$5,840 in 2014.2 According to official statistics, poverty declined from 27 percent to 15 percent between 2003 and 2012, and about --% in 2017.

211. According to statistical data, the GDP of the Republic of Uzbekistan for 2017 in current prices was 249 136.4 billion UZS and grew by +5.3% relative to the corresponding period of 2016. The average growth rate of gross regional product Uzbekistan makes up + 30 241.4 billion UZS per year. The GRP of the region for the last 5 years has increased by 2.6 times. 89.8% of GDP falls on value of economic sectors. 10.2% are net taxes on products. As a result of 2017, GDP per capita amounted to 7692.4 thousand UZS.

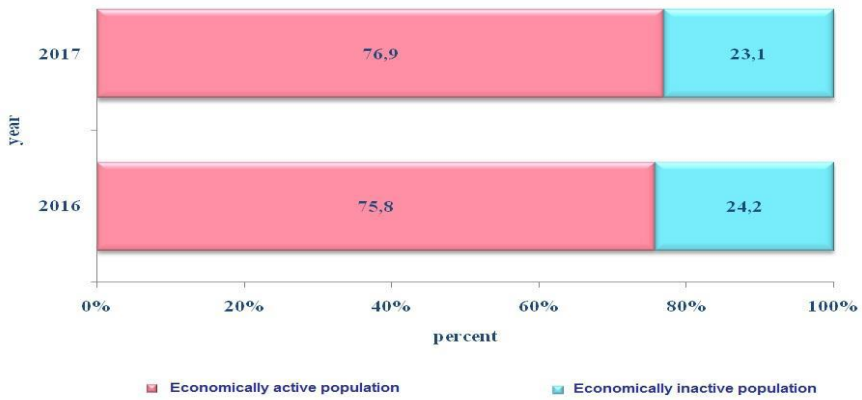
212. The largest share of gross value falls on sector of servicing – 47.3%. The share of production of industrial production including construction is 33.5%. Agricultural and fish products production makes up 19.3% respectively.Among the regions of Uzbekistan the largest share of GRP falls on Tashkent city (19%), Tashkent region (12%), Samarkand and Kashkadarya regions (9% respectively).

213. 33.5% of GDP refers to industrial production. For the whole last six years the industrial production increased by 1.9 times. The expansion of the assortment and stimulation of the output of finished products affected the increase in the production of consumer goods. Production of consumer goods for the same period is increased by 3.2 times for last 6 years. The main factor in the growth of the total volume of industrial production was the growth in manufacturing in the processing industry by 6.4% (contribution to the increase in the total volume of industrial production 5.2 points), mining industry by 12.9% (contribution to growth of 1,3 points), electricity, gas, steam and air conditioning by 4.9% (contribution to the increase of 0.4 points) and water supply, sewerage, collection and disposal of waste by 13.5% (contribution to the increase of 0.1 points).

6.2 Employment and Labor market

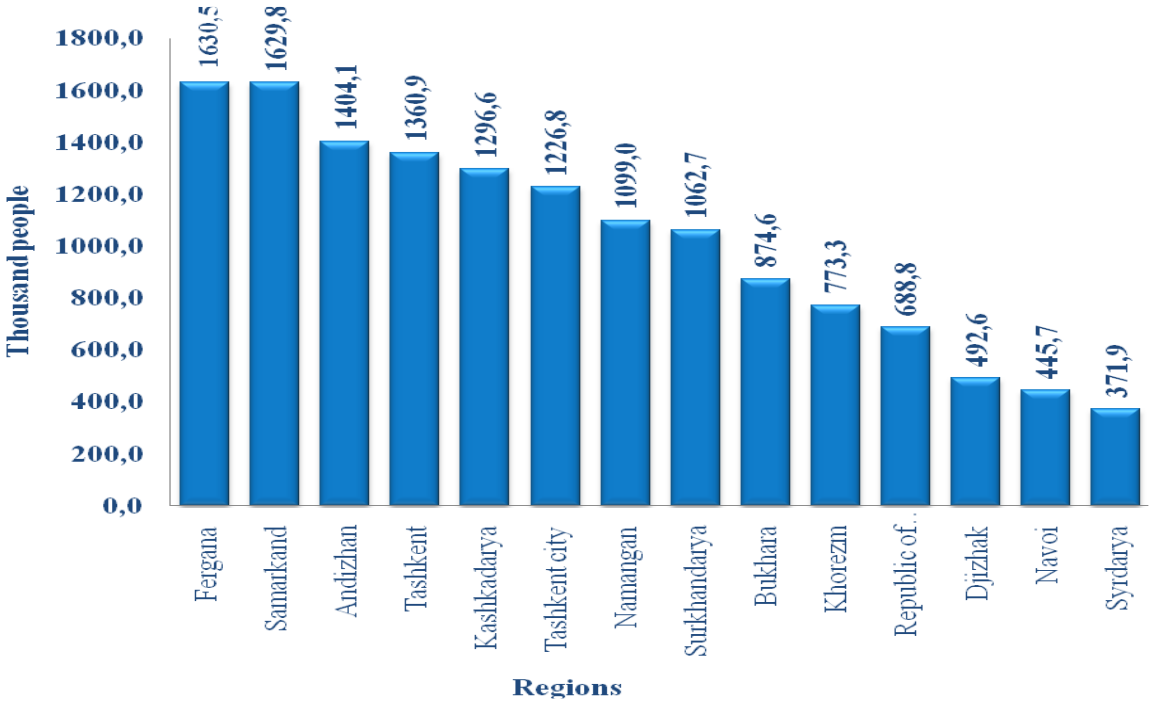
214. In 2017 share of labor resources makes up 58.1% of total population of the region (Fig.23). The average growth rate of labor resources for the last 6 years amounts at +1.2% per year (+221.6 thousand people). 76.9% of labor recourses are economically active population in the region; 23.1% of labor resources are economically inactive respectively. In 2017, 94.1% of economically active population are employed. The unemployment rate makes up 5.9%. The average annual growth rate of unemployment for the period of 2012-2017 is +4.3% per year (27.7 thousand people per year). For the last 6 years the number of employed population annually has grown, on average, by +2.0% per year that is +259.3 thousand people. In terms of economic activities, the largest share in the total number of employed is in agriculture, forestry and fisheries (27.3%), industry (13.5%), trade (11.0%), construction (9.5%) and education (8.2%).

Figure 23: Distribution of Labor Force: January – December 2017



215. In 2017, 94.1% of economically active population are employed. The unemployment rate makes up 5.9%. The average annual growth rate of unemployment for the period of 2012-2017 is +4.3% per year (27.7 thousand people per year). For the last 6 years the number of employed population annually has grown, on average, by +2.0% per year that is +259.3 thousand people. The share of the economically active population in the total population was 44,3 percent. However, this varies significantly across the regions.

Figure 24: Population distribution by regions



216. In terms of economic activities, the largest share in the total number of employed is in agriculture, forestry and fisheries (27.3%), industry (13.5%), trade (11.0%), construction (9.5%) and education (8.2%).

217. Analyzing the number of people employed in the regional context and the types of economic activity it is observed that servicing is the main sector of employment in Uzbekistan.

218. The highest level of employment in the sector of agriculture, forestry and fisheries is observed in Djizak (in 41.8% of the total number of employed) and Syrdarya (48.0%) regions; in the industrial sector - in Navoi (26.9%), Tashkent (19.9%) regions and Tashkent city (19.1%); in construction - Bukhara (15.2%) and Kashkadarya (13,9%); as well as services - in Tashkent city (68.8%), Namangan (53.6%), Samarkand (52.2%), Andijan (52.0%) regions.

6.3 Poverty

219. The aggregated income of the population includes cash incomes and incomes in kind as well as receipts, which, as a rule, have the property of recurrence and are received by the household or its individual members on a regular basis, annually or at shorter intervals.

220. The incomes of the population in Uzbekistan grow up due to the implementation of state programs directed on improvements in households living conditions, living level standards as well as strong social addressing policy. As the result the incomes and social benefits are increased.

221. In order to study the standard of living and well-being of the population of the Republic of Uzbekistan, a survey of households[11] by the sampling method on an annual basis is carried out.[12].

222. The average income of the population for 2012-2017 has increased by 2.2 times that is +3195.0 thousand UZS. The average growth rate of income of the population for the period of 2012-2017 is +17.5% per year or +639.0 thousand UZS per year.

223. The largest share of income falls on income from labor activity (68.8%). The income from transfer amounts at 24.8%. Incomes from services and production for own consumption as well as income from property[13] make up 2.2% and 4.2% respectively. Thus, the average aggregated income in 2017 is 5796.9 thousand UZS.

224. According to preliminary data for 2017, the average monthly nominal salary in the Republic of Uzbekistan amounted to 1453.2 thousand UZS (including allowances to wages, remuneration, incentive payments, compensation payments and payment for unearned time, as well as taxes from individuals, income tax, social insurance contributions and trade union funds).

225. According to the data below in the table 9, in 2000-2016 calculated per capita, it is possible to observe a trend in the growth of income, wages and pensions. But in recent years, the growth rates of wages and pensions, which are considered one of the main sources in the structure of income, are declining. This phenomenon had effect on reducing the total income of the population.

[11] The survey of households conducted in 2016 covered more than 50,000 people. as a result of the survey the average size of a household was 5.1 people. Out of the total number of the surveyed population, 48.7% were men and 51.3% women. At the same time, the share of children under 16 was 30.8%, the share of the population aged 16 and over was 69.2%, and the share of the able-bodied population in the republic in relation to the total population was 58.8%.

[12] The methodology for the household survey is based on the recommendations of the World Bank and the United Nations European Economic Commission and conducted throughout the territory of the Republic of Uzbekistan(10,000 units for the year). The size of this sample survey is 0.2% of the total number of households in the republic.

[13] Incomes from property consist of percent, dividends, royalties and other property incomes

Table 9: Trend of aggregate income of population, wages and pensions, 2000-2016

Indicator	2000	2005	2010	2016
Aggregate income of population, thousand UZS	96.4	371.8	1668.1	4565.2
Growth to the previous related period, %	124.7	117.4	120.1	110.0
Average annual nominal wage, thousand UZS	13.5	81.5	504.8	1293.8
Growth to the previous related period, %	146.0	138.7	129.4	110.4
Average rate of pension, thousand UZS	7.4	31.7	171.9	494.2
Growth to the previous related period, %	152.0	143.5	125.9	112.8

Source: State committee on statistics of the Republic of Uzbekistan

226. Over the whole period, income per capita was gradually increased. Income per capita actually increased by 11.7 times in 2016 compared to 2000. Also, for this period there was an increase in the average salary and the size of pensions, respectively, by 23.6 and 18.1 times.

227. The structure of consumer's expenditures of the population is optimized as well. The expenditures on food is becoming more sustainable, and expenditures on non-food products and services are increasing. The population spent the most money on food (44.3%), on other non-food products (22%), on clothing and footwear (10.3%), on communal services (7.7%).

228. In general, number of disable people receiving pensions and social benefits makes up about 2% of total number of population in Uzbekistan.

229. About 30% of all disable people receiving pensions and social benefits falls on persons who recognized as disable again (repeated recognition). Approximately 5% of people are recognized as disable in studied year for the first time. About 65% are people who receive social benefits and pensions based on diseases or other circumstances in which the pensions and social benefits for disable person are established without specifying the period of reassessment.

230. Total number of pensioners and beneficiaries of social benefits is about 10% of total number of population. The largest share of pension is stated as old-age pensions (72%). Pensions for disability make up 12%. 8.0% are loss of breadwinner pensions and beneficiaries of social benefits respectively.

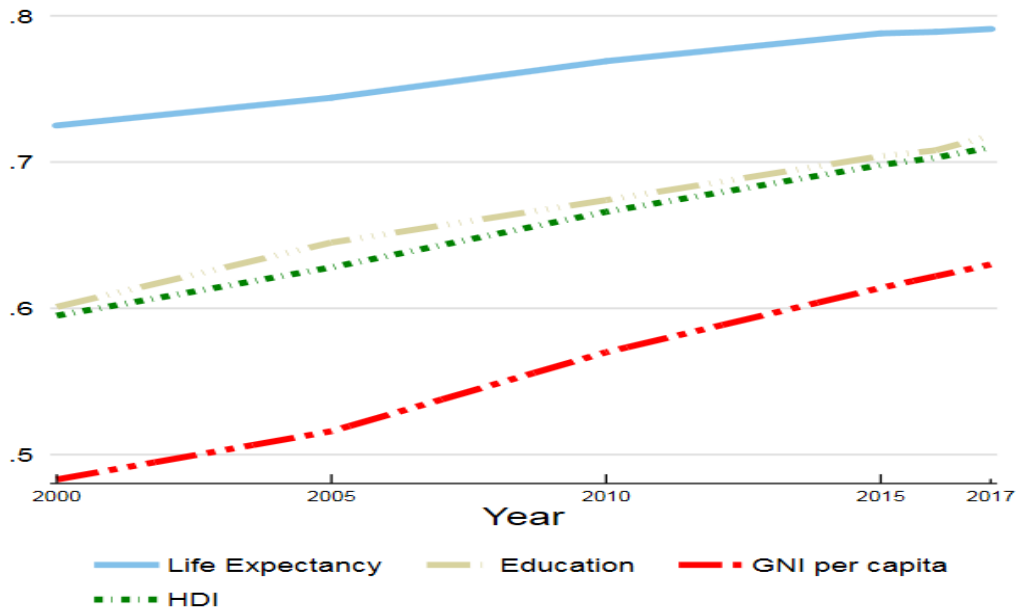
6.4 Uzbekistan's HDI value and rank

231. Uzbekistan's HDI value for 2017 is 0.710— which put the country in the high human development category—positioning it at 105 out of 189 countries and territories. Between 2000 and 2017, Uzbekistan's HDI value increased from 0.595 to 0.710, an increase of 19.3 percent. Table 10 reviews Uzbekistan's progress in each of the HDI indicators. Between 1990 and 2017, Uzbekistan's life expectancy at birth increased by 4.9 years, mean years of schooling increased by 2.4 years and expected years of schooling increased by 0.7 years. Uzbekistan's GNI per capita increased by about 233.5 percent between 1990 and 2017 (Fig 25).

Table 10: Uzbekistan HDI and its components

Year	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP$)	HDI value
1990	66.5		11.3		1,940
1995	66.4		10.7		2,227
2000	67.2	10.7	9.1	2,453	0.595
2005	68.4	11.5	9.8	3,051	0.628
2010	70.0	11.4	10.7	4,360	0.666
2015	71.2	11.7	11.4	5,811	0.698
2016	71.3	11.8	11.4	6,135	0.703
2017	71.4	12.0	11.5	6,470	0.710

Figure 25: Trends in Uzbekistan's HDI component indices 2000-2017



6.5 Gender Inequality Index (GII)

232. GII, which reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labor market participation rate for women and men. The GII is interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions.

233. Uzbekistan has a GII value of 0.274, ranking it 59 out of 160 countries in the 2017 index (Table 11). In Uzbekistan, 16.4 percent of parliamentary seats are held by women, and 99.9 percent of adult women have reached at least a secondary level of education compared to 99.9 percent of their male counterparts. For every 100,000 live births, 36 women die from pregnancy related causes; and the adolescent birth rate is 16.5 births per 1,000 women of ages 15-19. Female participation in the labor market is 53.8 percent compared to 77.9 for men. In comparison, Kyrgyzstan and Tajikistan are ranked at 91 and 69 respectively on this index.

Table 11: Uzbekistan's GII for 2017 relative to selected countries and groups

	GII value	GII Rank	Maternal mortality ratio	Adolescent birth rate	Female seats in parliament (%)	Population with at least some secondary education (%)		Labor force participation rate (%)	
						Female	Male	Female	Male
Uzbekistan	0.274	59	36	16.5	16.4	99.9	99.9	53.8	77.9
Kyrgyzstan	0.392	91	76	38.1	19.2	98.6	98.3	48.2	75.7
Tajikistan	0.317	69	32	36.4	20.0	98.9	87.0	45.5	73.3
Europe and Central Asia	0.270	—	24	25.5	20.7	78.4	85.9	45.5	70.3
High HDI	0.289	—	38	26.6	22.3	69.5	75.7	55.0	75.5

234. Maternal mortality ratio is expressed in number of deaths per 100,000 live births and adolescent birth rate is expressed in number of births per 1,000 women ages 15-19.

6.6 Governance and Human Rights.

235. Uzbekistan's governance system is highly centralized: the central government in Tashkent makes the most important decisions on budgets and administrative appointments.[14] The administrative divisions comprise: (i) the republic; (ii) 12 regions, one autonomous republic (Republic of Karakalpakstan), and one independent city (City of Tashkent); and (iii) 40 cities/urban districts and 162 rural districts, which are further subdivided into towns and *qishloqs* (villages). The president directly appoints regional governors, who in turn appoint district heads. The regional and district *hokims* (heads) serve as the central government's agents in the region and are accountable to Tashkent. The regional and district *hokimiyats* (governments) have little independence in managing public finances. The central government transfers resources to regional and district hokimiyats and gives them little autonomy or discretion in decision making. Transfers—mostly shared tax revenues—are by far the most important source of income for regional and district hokimiyats. These account for about 70 percent of subnational revenues.[15]

236. Despite the country's highly centralized administrative structure, subnational governments play an important role in public services provision. Between 2013 and 2019, subnational governments were responsible for around 34 percent of national public spending (56 percent of total national spending excluding extrabudgetary accounts), equivalent to about 11 percent of GDP. Subnational spending is concentrated on education (43 percent), healthcare (21 percent), and general public services (15 percent). On average, the majority of spending during this period (53 percent) went toward wages and benefits, followed by "other spending" (28 percent), which includes communal services, renovation and repair of the existing capital stock, and food for hospitals or schools. Capital investment accounted for only 7 percent of total subnational expenditures.[16]

237. Community self-governing bodies, or mahalla citizens' assemblies (MCAs), also play a role in carrying out state functions such as distributing social welfare payments, community policing, and maintaining qishloqs' cleanliness. Although once informal, *mahalla* (neighborhood) committees are now enshrined in Article 105 of Uzbekistan's Constitution as territorial self-government organizations. MCAs are self-governing bodies that are official legal entities of their respective mahallas. Over 100 laws and regulations govern their participation in specific areas of public life. The government has recently begun to formalize the mahalla structure, for instance by creating an executive committee consisting of a chairperson, advisors, and

[14] World Bank. 2016a. *Systematic Country Diagnostic for Uzbekistan*. Washington, DC: World Bank.
[15] World Bank. 2019b. *Intergovernmental Relations*. Washington, DC: World Bank.
[16] Ibid.

an audit commission in charge of verifying MCAs' expenditures. These MCA employees receive salaries paid by hokimiyats. The remaining MCA executive committee members include an executive secretary appointed by the mahalla chair, a women's affairs officer appointed by the Women's Committee, and the heads of local health and educational facilities. The MCAs have committees in charge of specific issues such as social support, work with women, and the development of entrepreneurship and family businesses. In September 2018, President Mirziyoyev signed a new law calling for the formal election of MCA chairs and advisors for a period of three years; it was first implemented in May 2019. All candidates for these roles must be nominated by an MCA. In practice, MCAs' leadership tends to be male dominated and older. As of July 2018, women held only 12.8 percent of MCA chair positions (16.3 percent in Ferghana Valley). The average age of a chairperson as of July 2018 was 50 for the entire country. MCAs' budgets are financed through charitable donations, the Mahalla Foundation, and most prominently, hokimiyats. MCAs independently manage financial assets in bank accounts, and the executive committees report quarterly to the Citizens' Assembly on the use of these funds.[17] However, MCAs do not have access to self-financing mechanisms, and they cannot raise their own revenue.

238. **Civil society organizations have limited space to operate in Uzbekistan.** In April 2018, the president signed the Law on Public Control, which provides a legal framework for citizen oversight of government activities. Mahalla committees, non-governmental organizations (NGOs), and the media have the right to oversee the performance of government bodies and officials. This law was followed by implementing decrees in May and June 2018 that sought to enhance the role of civil society in the country's "democratic renewal" and to establish implementing regulations. However, these regulations may impede the growth of independent civil society organizations (CSOs). The regulations impose potentially burdensome registration documentation requirements and fees; vague grounds for denial of registration; constraints on appealing or resubmitting rejected applications; a risk of delay when expertise is sought from other parts of the government; harsh sanctions for law violations; and limits on (and extensive reporting requirements for) foreign funding.[18]

239. **Three factors related to the country's system of governance constrain the GoU's ability to provide high-quality public goods and services.** First, the governance structure at the district level, where most line ministries provide services and directly manage budgets, constrains planning, execution, and accountability to citizens. District hokims are hampered by a legal double subordination, as they are subject to both provincial hokims' and regional line ministry officials' decisions. This can lead to delays in decision-making and a weakening of responsiveness to citizen needs. Second, functional assignments and administrative sharing between levels of government are not regulated by law. Consequently, the different levels of government often have unclear and/or overlapping mandates with respect to service provision, which hampers accountability. For example, multiple levels of government (republic, region, and district/city) are involved in delivering secondary school services. Third, the current system of intergovernmental finance arrangements is highly discretionary, which creates uncertainty for subnational governments. For effective planning and budgeting, subnational governments need predictability regarding the resources they will receive every year. The absence of a ruled-based and transparent transfer system discourages efficient and transparent public financial management at the subnational level.[19]

240. **As a result, there are gaps in infrastructure coverage and quality in Uzbekistan, with significant regional variation.** The L2CU survey asked respondents to rate the presence or absence and quality of the following infrastructure: bridges, markets, public schools, hospitals, internet, mobile phone service, water, electricity, piped gas, irrigation, and heating. No rural respondents reported having access to centralized heating, but nearly all respondents reported that their area has a public school, electricity, and mobile phone coverage. In addition, 42.8 percent of respondents throughout the country lack access to a market, 42.5 percent lack internet access, 36.7 percent lack piped gas, and 37.7 percent lack irrigation. With the exception of piped gas, these statistics are similar in Ferghana Valley (i.e.,, Namangan, Andijan, and Ferghana regions). Within the Ferghana Valley, 52.3 percent of respondents lack piped gas, and 8.7 percent do not have paved roads (compared to the national average of 12.8 percent); 7.5 percent of respondents from the valley reported that their household has no centralized water connection (national average = 26.1 percent).

[17] ЗРУ-350 " On self-governing bodies."
[18] http://www.icnl.org/research/monitor/uzbekistan.html
[19] Ibid.

241. **Rural Uzbekistan's poor-quality infrastructure continues to decline.** Undermaintained distribution networks, underfunded operating budgets, almost nonexistent domestic capital budgets, and limited customer willingness to pay for utilities contribute to an unsustainable supply of utility services in rural areas. Throughout the country, 29.9 percent of respondents in rural or peri-urban households rated the quality of irrigation as poor (31.6 percent for Ferghana Valley); study participants also rated other services as poor: 34.4 percent (32.8 percent for Ferghana Valley) for centralized water supply, 52.6 percent (42.7 percent for Ferghana Valley) for internet, and 25.3 percent (17.2 percent) for mobile phone coverage. Of the households in Ferghana Valley that have access to centralized water connections, 88.7 percent have 24-hour-a-day access, compared to 90 percent for the country.[20] In rural areas, households without centralized water connections resort to non-potable sources such as surface water or polluted irrigation water, or costly tanker truck services. Since rural areas lack access to the centralized sewage network, wastewater is disposed directly into the environment without treatment.[21] Despite universal coverage of centralized electricity supply, rural residents often experience extended electricity shortages and interruptions. Only 58.3 percent of respondents from Ferghana Valley reported that their household had not experienced any electricity disruptions within the last 24 hours, compared to the national average of 70.1 percent.[22] In addition, the poor connectivity of tertiary road networks to secondary networks may impede agricultural profitability.[23] Within the Ferghana Valley, only 10 percent of respondents rated the quality of paved roads as poor, compared to an average of 44.4 percent for the entire country.[24] Crowd-sourced data from OpenStreetMap[25] suggests there is extensive variation in road density within Ferghana Valley's three regions. **Across all regions and income groups, a higher percentage of Uzbek respondents view the improvement of paved access roads, water supply, and piped gas as more urgent priorities than other infrastructure and services.**

242. Civil Rights. The Constitution of the Republic of Uzbekistan asserts that "democracy in the Republic of Uzbekistan shall be based upon common human principles, according to which the highest value shall be the human being, his life, freedom, honor, dignity and other inalienable rights."

243. The official position is summarized in a memorandum "The measures taken by the government of the Republic of Uzbekistan in the field of providing and encouraging human rights"[45] and amounts to the following: the government does everything that is in its power to protect and to guarantee the human rights of Uzbekistan's citizens. Uzbekistan continuously improves its laws and institutions in order to create a more humane society. Over 300 laws regulating the rights and basic freedoms of the people have been passed by the parliament. For instance, an office of Ombudsman was established in 1996.[46] On 2 August 2005, President Islam Karimov signed a decree that abolished capital punishment in Uzbekistan on 1 January 2008.[47]

244. However, non-governmental human rights organizations, such as IHF, Human Rights Watch, Amnesty International, as well as United States Department of State and Council of the European Union, define Uzbekistan as "an authoritarian state with limited civil rights"[16] and express profound concern about "wide-scale violation of many basic human rights. Forced labor and indiscriminate resettlement cases are cited as examples- see table 12 below:

Date	Location	Impact	Source
04/30/2019	Surkhandarya region, Jarkurgan district	Demolition of commercial and residential buildings	https://kun.uz/uz/news/2019/04/30/jarqorgonda-obod-qishloq-dasturi-amalga-oshirilgach-tadbirkorlar-nimadan-norozi-bolishdi
07/30/2019	Ferghana region, Rishtan district	Demolition of commercial and residential buildings	https://www.gazeta.uz/oz/2019/07/30/hashar/

[20] World Bank. 2018a. *Listening to Citizens of Uzbekistan High Frequency Survey*. Tashkent, Uzbekistan: World Bank Group.
[21] World Bank 2016a.
[22] Authors' calculation based on the pooled high-frequency L2CU data from September 2018 to March 2019. World Bank 2018/2019.
[23] Ibid.
[24] World Bank. 2018b. Listening to Citizens of Uzbekistan Baseline Survey. Tashkent, Uzbekistan: World Bank Group.
[25] OpenStreetMap uses a combination of remote sensing, satellite imagery, open-licensed government and private mapping, and dedicated users to compile detailed road information for countries across the world.

07/26/2019	Kashkadarya region, Yakkabag district	Demolition of commercial and residential buildings	https://www.gazeta.uz/ru/2019/07/26/yakkabog/
05/24/2019	Khorezm region, Urgench district	Demolition of about 400 households	https://kun.uz/en/news/2019/07/27/demolition-of-houses-in-urgench-prime-minister-arrives-at-the-scene-ensures-payment-of-compensation-to-people
07/31/2018	Namangan region, Uychi district	Residential houses and structures	http://xs.uz/uz/post/obod-qishloq-uychi
09/19/2018	Tashkent city	"Obod mahalla" Demolition of residential houses	https://m.kun.uz/uz/news/2018/09/19/obod-maalla-dasturiga-am-kiritilmagan-toskentdagi-tamirtalab-ujlar-takdiri-kimni-kiziktiradi

Table 12. Forced labor and resettlement cases

6.7 Sum-up

245. In the recent years, Uzbekistan has taken decisive, bold steps towards openness and reform. Since 2016, the country has witnessed a far-reaching change process both breadth and depth. The general positive reception to the reform process also indicates society's wide acceptance of the need for fundamental change. The experiences of many countries during the transition process have shown that the switch from a state-controlled economy to a market economy entails painful changes and, at the very least, temporary losses the strategic action plan for 2017–2021 contains key reforms in the areas of politics, administration, case law, the economy and external relations. Reforms are always a process, but the wide-ranging approach adopted is encouraging. Some progress has been made in the areas of human rights and freedom of the media.

Many steps have been taken, particularly around the economy. Liberalizing the exchange rate of the country's currency, the *som*, in 2016 is one such example. This measure now enables companies to receive via their banks payment for international transactions in Uzbek *som* without any restrictions. Customs duties and taxes were adjusted for key trade partners as further liberalization measures boosted trade.

246. Two major issues relate to: energy reform and – the most difficult area – the restructuring of state companies- are being addressed appropriately. Both areas have a direct impact on the population. The first key steps towards reforming these areas were two decrees intended to push back the influence of the state and increase the transparency of the decision-making process in these companies.

247. All the above developments have boosted the economy of the country and new vistas for livelihoods. Uzbekistan ranks quite high in terms of the overall HDI. However, it slips down when adjusted to gender parameters. Unemployment and under employment, especially among the youth and women, have assumed large proportions. The country's social protection measures, including unemployment relief, though quite good, will assume greater attention in the coming days. This also brings into focus need to improve land based livelihoods and infrastructure improvements, especially, in the rural areas, wherein huge employment potential exists. The current status highlights the need to accord attention on a priority basis to governance and human rights issues. All these findings are typical of any region in the country. Further sections are devoted to addressing these issues while designing the RIDP and the efforts thereof to reach out effectively to various stakeholders.

7. STAKEHOLDERS, IMPACTS AND MITIGATION

248. **Stakeholders**. The project recognizes two broad categories of stakeholders: "**Project-affected parties**" which includes "those likely to be affected by the project because of actual impacts or potential risks to their physical environment, health, security, cultural practices, well-being, or livelihoods. These stakeholders may include individuals or groups, including local communities". They are the individuals or households most likely to observe changes from environmental and social impacts of the project.

249. The second is the "**Other interested parties**" (OIPs) refers to "individuals, groups, or organizations with an interest in the project, which may be because of the project location, its characteristics, its impacts, or matters related to public interest. For example, these parties may include regulators, government officials, the private sector, the scientific community, academics, unions, women's organizations, other civil society organizations, and cultural groups" . These groups chiefly can influence on the outcomes of the project.

7.1 Stakeholder Segmentation/ Prioritization

250. While, in reality, there could be many stakeholders, for the purpose of the project management, key stakeholders and their areas of influence are important. Thus, the stakeholders of high and substantial significance are described in the Table 13 below.

No	Level – Administrative Space	Stakeholders	Area of Influence
1	**National / Country Level**	Ministry of Finance of the Republic of Uzbekistan	HIGH The Ministry of Finance is state body engaged in elaboration of state policy in the budgetary, tax and customs and tariff spheres, as well as in the sphere of financial market, insurance, provision of pensions to citizens, accounting and financial statements, financing of state organizations and state funded organizations, pricing on goods and services of the enterprises - monopolists, ensuring achievement of strategic macroeconomic indicators and parameters of the State budget of the Republic of Uzbekistan.
		Republican Commissions that are set up to oversight rural infrustructure rehabilitation programs	(i) solving problems, coordinating, and interacting with the line ministries, departments, economic associations, and local hokimiyats participating in the program; i(i) conducting systematic monitoring of implementation of construction and renovation projects; and (iii) planning and preparing of state programs of upcoming years, including the development of lists of rural settlements where construction and renovation projects are to be planned
		Ministry of Economic development and poverty reduction	Overall responsibility for project management
		Ministry of Employment and Labor Relations of the Republic of Uzbekistan	HIGH All issues related to labor , specially, forced labor.

			Coordination for regional development, including local infrastructure investments
			Coordination for investments for IFIs
		Media	Moderate Public outreach and awareness at the national level, secure project visibility
		WB/ AIIB	Supervision, no objections, implementation support
2	**Provincial Level**	Regional Hakim's office	HIGH Responsible for oversight and coordination of activities implemented within the province
		Regional PIU Staff	Implementing agency with regionally based staff that will oversee implementation of both components, participate in the procurement of subgrant funded infrastructure projects, etc. , GRM database management and reporting
		Line Departments	Require information and updates on project progress and activities.
		Water and energy utilities	Require information and updates on project progress and activities.
		Single Customer Services engineering companies	SUBSTANTIAL Responsible for providing procurement and technical design and supervision services to the PIU
		Media	Moderate dissemination of project related information, public awareness, outreach
3	**District level**	District governments (khakims, including line departments, youth, women, land management, economic, state environmental department)	HIGH Have an interest in ensuring that local development investments are aligned with district development plans. District-level line agencies and utilities have the responsibility for operations and maintenance of subgrant investments in their respective sectors. O&M arrangements are included in subproject design and handover documentation included in the POM.
		Local media	MODERATE dissemination of project related information, public awareness, outreach
		Contractors	HIGH Implementation of civil works in compliance with ESSs
		Mahalla Citizens Assembly Mahalla Development Units	Conducting outreach activities to all residents, supporting the participatory needs assessment process, preparing the qishloq development

			plan, supporting the participatory oversight process.
5	**Village**	Facilitating Partners	Facilitation of the qishloq development planning process, technical assistance for initial subproject design and discussion of alternatives, and promotion of social accountability activities during subgrant implementation, GRM, ESSs implementation at the local level
		Labourers	Support in civil works at the village level
		Men/Women	HIGH Gender balance, women participation in decision-making/governance
6	**Mahalla**	Youth (15-30)	direct beneficiaries, peer-to-peer motivators
		Laid Off Workers	direct beneficiaries, , peer-to-peer motivators
		Returned migrants	direct beneficiaries, peer-to-peer motivators
		FHHs	direct beneficiaries, peer-to-peer motivators
		Community activists	Participation in CDD project prioritization, community monitoring
		Mahalla leaders and councils	HIGH Serve as liaison between the community members and project staff, VPC, JPC, efficient two-way communication channel

Table 13. Stakeholders

7.2 Key Issues, Impacts and Mitigation

251. Uzbekistan, in general, and the RIDP areas, in particular are characterized by highly diverse scenario with different social and livelihood conditions as well as employment oppurtunities of the population in rural and urban areas. These are in fact gets reflected in the nature and status of infractructure facility. This fact of diversity makes it challenging to ensure effective outreach and service delivery. It warrants a system which shall respond flexibly to different needs as the beneficiary profile, is not homogeneous, rather, quite diverse comprising a number of sub-groups identifiable on the basis of their differential endowment, gender, ethnicity, different economic groups and other regional features. The challenge therefore lies in addressing the requirements of all social groups, with special attention towards the poor and socially excluded groups. Given this situation, following are identified as key social development issues which are significant while designing the project. They are: (i) inclusion /exclusion; (ii) participation; (iii) equity, transparency & accountability; (iv) decentralized governance; (v) local level human and institutional development. Key social safeguard issue relates to methods to secure lands required for the project activities. While social development issues are

addressed through design elements, safegaurd management is guided by the World Bank's Operational Policy on Involuntary Resettlement – OP 4.12 and the national legislation. Measures drawn to address these issues in the project are discussed in the following sections. To emphaisze further, social development issues are managed through the institutional and impelmentation arrangements designed specifically for the project.

252. The project will establish relevant institutions at different levels in the administrative horizon, identify actors and carve out explicitly role and responsibilities for each of them.

253. **Qishloq level.** Mahalla Citizens Assemblies (MCAs): Each qishloq selected for participation in the Project will form an MCA project committee, a primary management unit, and will be responsible for the following tasks: (i) Conducting outreach to communities on the Project's objectives, subgrant options, the participatory project cycle; and BFMs. (ii) Supporting the participatory needs assessment with the FP's assistance and ensuring sufficient participation of women, youth, the disabled and vulnerable groups in the needs assessment; (iii) Preparing the qishloq development plan; (iv) Prioritizing investments for RIDP financing and developing O&M plans for these investments and submitting this proposal to the DPC for approval; (v) Supporting the participatory oversight process; and (vi) Transmitting project-related complaints to the PIU.

254. **District level.** The district hokim will be responsible for chairing the Project's DPC. The district implementation team will be responsible for the following tasks. (i) Conducting outreach and communicating the program's parameters including qishloq selection criteria, eligible investments, and the required participatory processes, and timelines) to MCAs. (ii) Selecting qishloqs for participation in RIDP based on the process and selection criteria that are detailed in the POM. (iii) Reviewing and verifying all subgrant proposals for RIDP financing to ensure that they meet rural residents' needs, are technically feasible, have O&M plans in place, and are well aligned with other GoU and donor development plans and do not crowd-out or duplicate other investments.

255. **Regional Level.** Commissions established under the regional Khokimiyats can be involved in project implementation and be responsible for the following. (i) Procurement of RIDP subprojects; (ii) verifying that the qishloqs that were selected by the DPC are eligible for participating in RIDP based on the Project's criteria; and (iii) verifying the technical feasibility of qishloq's proposed subgrant investment proposals. PIU staff, including at least two technical supervisors/engineers and one safeguards specialist, co-located in the regional hokimiyats will provide capacity building and oversight of subproject design, procurement, construction, and the implementation of social and environmental safeguards processes defined in the POM. The working group or representatives of regional hokimiyats will be collaborating with national and regional PIU staff, MCA, MDU, district project committees on verifying development plans produced in each village and facilitating regular transparent social audit.

256. **National level**. State programs improving access to rural infrustructure are governed by a commission at the national level called the Republican Commission. The mandate of the Commission is to oversee and ensure timely implementation of the state programs. The main tasks of the Republican Commission are: (i) solving problems, coordinating, and interacting with the line ministries, departments, economic associations, and local hokimiyats participating in the program; i(i) conducting systematic monitoring of implementation of construction and renovation projects; and (iii) planning and preparing of the state program of upcoming years, including the development of lists of rural settlements where construction and renovation projects are to be planned.). The MoED therefore has overall responsibility for the implementation of the proposed Project. The Deputy Minister of MoED is responsible for overseeing the day-to-day operations of the Project.

257. **Project Implementation Unit (PIU).** In May 2019, the GoU issued an order to establish the RIDP PIU in the MoED. The PIU will be responsible for overall project implementation, including fiduciary oversight, procuring and overseeing the Facilitating Partner contracts, M&E, communications and financial management. It is responsible for ensuring linkages of the Project with other existing Government and donor financed programs and projects. MoED will provide overall oversight on project implementation, including establishing and staffing a PIU through its Department for Monitoring of Territorial Targeted programs. PIU staff will include, inter alia, a Project Director, a procurement specialist, a FM specialist, civil engineer/infrastructure specialist, environmental and social safeguard specialists, a specialist on community

mobilization; MIS; and M&E specialist. The PIU will also employ one FM specialist and one procurement specialist responsible for implementation support to regional offices.

258. The PIU will manage all aspects of safeguards, procurement, and supervision; perform all fiduciary tasks and necessary coordination of institutional support with regions and districts; and conduct consolidated reporting and project management tasks as outlined in the POM. The PIU will be responsible for M&E; the beneficiary feedback mechanism, including the GRM; and project-related communications and outreach. The PIU will open its own designated account and will finance all taxes, except value-added tax and customs duties.

259. **Social Intermediation -Facilitating Partners.** Facilitating partners (FPs) will provide training and capacity support to district hokimiyats and MCAs to increase citizen participation, transparency, and oversight throughout the project implementation cycle. FP tasks include: (i) assisting DPC to carry out a participatory village selection process, including communicating the selection methodology with residents of the district and organizing consultations on the results of the selection process, (ii) assisting MCAs to establish MCA project committees; (iii) providing training and capacity building support for MCA project committees to carry out participatory village needs assessment, which includes identifying potential investment synergies across neighboring villages; (iv) assisting MCA project committees to produce qishloq development plans, that identify subprojects to be financed through the Project; (v) training MCA project committee members in procurement, financial management, and construction oversight techniques; (vi) providing capacity support to MCA project committees to establish the required community-level organizations to contribute to the O&M of subproject investments; (vii) providing technical assistance to MCA project committees that identify autonomous water supply and sanitation systems as prioritized for financing under the Project

7.3 Project Cycle and Processes

260. All investments will be identified by the local communities through the facilitated participatory activities on village level. Social Intermediation services through external professional NGOs (Facilitating Partners) will be enlisted to enable the local communities to identify the most needed investments, subject to a negative list that includes housing construction and renovation or any investments that require physical displacement or resettlement of people

261. **Selection of subprojects and implementation.** To be eligible for Project financing, each MDU will prepare a qishloq development plan and demonstrate that it was produced following from participatory rural appraisal exercises that involve all residents, account for youth and gender equity goals, and prioritize subprojects that contribute to improving living standards Proposed subprojects, including O&M plans, should be technically viable, ensure coordination and alignment with GoU investment plans, and demonstrate sustainability. The POM will detail the selection criteria for the subprojects, including weighting toward the needs of youth and women.

262. 3. The project will support FPs, selected from non-governmental organizations or private sector entities, to implement the participatory project cycle in collaboration with regional and district hokimiyats and MCAs. Their responsibility will include: (i) socialization and outreach on Project objectives, rules, and grievance redress systems, including to women and vulnerable groups; (ii) participatory needs assessment in all neighborhoods; (iii) participatory development planning, prioritization, and selection of subgrant investments; and (iv) participatory O&M. Participatory monitoring and oversight activities will include: (i) subproject monitoring by trained members of MDU and (ii) social audits, to ensure that Project decisions are inclusive and transparent. Further, the project will also provide technical assistance and capacity-building support to district and regional hokimiyats to institutionalize systems of citizen engagement, and to MCAs on the implementation of autonomous water supply and sanitation systems

263. **Implementation cycle.** (i) With the FPs' assistance, the district hokimiyat will establish districtproject committees in each of the 14 target districts. The district hokim will chair DPC and appoint other committee members, including: representatives from each MCA in the district that is eligible for Project financing, representatives of relevant district hokimiyat departments, such as the department on capital infrastructure, and representatives of the district's women's and youth organizations and local CSOs. (ii) The DPC will communicate the RIDP's objectives and parameters to eligible MCAs—rural MCAs that have not yet participated in the state programs that finance improvement of rural infrustructure. The DPC will use a

participatory approach to select qishloqs to participate in the Project (see section on Project Beneficiaries). (iii) The FPs will assist MCAs with establishing MDU with at least 50 percent representation of women and youth (iv) The MDU will socialize the Project to qishloq residents. (v) With the assistance of the FPs, the MDU will carry participatory needs assessments and planning, including the identification of potential investment synergies across neighboring villages and the prioritization of investments with specific outreach to women, youth, the disabled, and other vulnerable community members. From the list of priority investments identified by communities, the MDU will develop an overall three-year development plan for the qishloq, which includes the proposed infrastructure projects for RIDP financing.[26] When selecting subgrant proposals to finance, the MDU will weight criteria including the number of beneficiaries (including women and youth), plans for O&M of investments, and the level of local contribution and co-financing. (vi) The MCAs will submit the qishloq development plans with the proposed subgrant investments to the DPC for verification based on whether the proposals meet the Project's technical requirements, adequate O&M arrangements are in place, and other parts of government are not financing the investments. The DPC will submit the verified plan to the district hokim for approval. The district hokimiyat will send the approved qishloq development plans, including the RIDP subgrant proposals, to the regional hokimiyat for verification, which will then send it to the central Project Implementation Unit (PIU) for final verification.

264. **Implementation of the participatory monitoring and oversight cycle**. The FPs will train nominated community members (including at least 50 percent young men and women) to play a role in monitoring project implementation. While the regional hokimiyat is responsible for procuring subproject investments, the Project will require a village representative outside the MCA executive committee to sit on the tendering committee for both design and construction tenders and provide oversight to ensure that the committee adheres to the agreed Project procurement manuals and procedures. The MDU will be responsible for identifying and nominating a qualified community member to play this role, and FPs will help train this representative. In addition, the nominated community members will consult regularly with design agencies during the subproject design process to ensure that suggestions of local residents are taken into account, and monitor the construction of the subprojects, including whether they are completed on time and to the agreed technical and social standards and budget. Before the PIU releases the final payment to the contractor, the Project will require a representative of the monitoring committee and FP to sign off on the construction work. The PIU Senior Infrastructure Specialist and regional technical supervision specialists will be actively engaged with MDU and village residents to make sure that the design of subprojects is agreed between contractors and MCAs, train village residents to monitor design and construction process; and provide overall technical support and guidance when needed.

265. **Social audits** will take the form of public forums in which district hokimiyats representing DPC and MDU report on progress, challenges, and fiduciary information at least twice during the annual implementation cycle. Contractors as well as beneficiaries will participate in the social audit process. The FPs will help the MCAs and DPC conduct these meetings to ensure that the decisions are inclusive; that they are made from the bottom up; that there is continuity in the chain of decisions made by focus groups (e.g.,, women); and that they enable the MDU, DPC, and contractors to explain the expenditures of Project subgrants. Transparency will be a key parameter. The FPs will provide logistical support to ensure broad attendance by community members and representatives of MCAs and the DPC, including 50 percent women. The subcomponent will fund the technical support needed to prepare, organize, and document these meetings with the FPs' assistance.

266. **Support the use of digital technologies to increase participation, inclusion, transparency and accountability throughout the Project cycle.** Applications will include: (i) the use of mobile phone or tablet-based data collection instruments for use in producing an objective, evidence-based village ranking and conducting village-level needs assessment activities; (ii) the use of social media and instant messaging platforms/bots (e.g., Telegram) to (a) disseminate information on Project events, rules, procedures, data analysis, maps, and sources for grievance redress; and (b) crowd-source inputs on village development priorities from residents; and (iii) administering frequent e-surveys of MDU for use in monitoring implementations progress. Questions would cover progress on participatory needs assessments, qishloq

[26] The legal basis for the qishloq development plans is the Law on Self-governing Bodies and the President's Decree on Measures to Provide Settlements with Master Plans in 2018–2020, Improvement Activities of Design Organizations, and Improving the Quality of Preparation Specialists in Urban Planning No-3502, February 2, 2018.

development planning and decision-making, implementation and oversight of subprojects, and challenges faced.

267. **Capacity Development. Project will strengthen the capacity of regional hokimiyats to deliver local infrastructure and services using good governance practices, including through the use of digital technologies.** This subcomponent will finance TA and capacity building for regional hokimiyat and SCS staff on procurement, and citizen engagement practices. The subcomponent will also finance capacity-building and TA activities to strengthen Single Customers Services' (SCS), regional and district hokimiyats' monitoring and oversight capacities, with a focus on the independent quality control of works executed under the project, including by citizens, and complaints handling. In addition, the PIU's engineering staff and consulting services will work with the SCS offices under the regional hokimiyats and local design institutes to strengthen the engineering designs for the eligible subprojects and their capacity to build climate-resilient designs into the local infrastructure. The component will support the use of digital technologies to build capacity for better quality local infrastructure in the following ways: (i) online training and education modules will be developed targeting regional hokimiyat, SCS, design institute, FP, and MDU personnel on infrastructure design and construction methodologies (e.g., reinforced concrete practices, erosion control methods, slope and embankment treatments); (ii) a mobile application linked to the MIS (see below) will be developed that allows PIU staff to enter geo-coded administrative data on all approved subprojects and update data during subproject implementation and O&M phases, which will serve as a database allowing project managers to monitor infrastructure in real-time and providing the basis for ex post technical audits. The MIS will include an open access portal allowing citizens to upload photos, videos, and comments on the subprojects.

268. **Information, Education and Communication Campaign. Public outreach campaigns** to educate stakeholders in national, regional, district, and qishloq government, (social) media, and civil society on the proposed Project, and provide information on mechanisms for grievance redress. The campaign will use SMS/bots to remind citizens about their rights with respect to forced labor, evictions, GRMs, and demolitions.

269. **Forced Labor. Project will support measures to ensure no forced labor used in the Project.** Forced labor mitigation measures will include capacity building of regional and district hokimiyats and residents (including MCA chairs, women, youth, activists) of selected villages on national labor legislation including norms regulating public works that strictly prohibit the use of forced labor. For this purpose, PIU will collaborate with specialists from the International Labor Organization (ILO) and labor inspectors from the Ministry of Employment and Labor Relations (MoELR) to: (i) provide regular trainings to hokimiyats and MCA members on labor practices; (ii) monitor and report on any cases identified; and (iii) implement a public awareness campaign on labor rights, practices, and grievance redress systems. The PIU will build an internal communications channel with MoELR's Labor Inspectorate to report on cases of forced labor submitted through the Project's GRM, and facilitate the investigation process. Project will also coordinate with MoELR on setting up mechanism for efficient use of Public works Fund's resources under MoELR to reduce cases of forcing civil servants to do public works.

270. **Learning through observation study tours. Project will facilitate within-region and across-region learning exchanges for members of MDU.** The purposes of these exchanges it to share innovations, solutions to common problems, and build networks to allow for participants to continue conversations following the visits.

271. **Most importantly, adequate resources will be provided so as to build the PIU's capacity to address grievances, comments, and other feedback regarding the Project**. Its design will include a safeguard-related GRM that will specify the systems and requirements for grievance redress, including uptake, sorting and processing, acknowledgement and follow-up, verification and action, and monitoring. The PIU will establish a unit tasked with this role, which will collect grievances and feedback from MCAs and citizens, transmit this information to the appropriate authorities, and report to the PIU director and MoED department responsible for appeals from individuals and legal entities.

8. LAND ACQUISITION AND INVOLUNTARY RESETTLEMENT

272. On the social front, one of the key impact relates to the fact that some activities will require 'lands', which could lead to temporary or permanent physical and economic displacement as well as restrictions on access.

273. Where land acquisition is required, the Project needs to draw a strategy and implementation action plan to secure land. Two broad methods of securing land envisaged under the Project are: (i) voluntary donations; and (ii) involuntary acquisitions. The former is traditionally a well-accepted practice in community led initiatives as the communities decide on the activities to be taken up under the Project. Yet, the Project lays out a series of "Dos and Don'ts" to ensure that donations are indeed 'voluntary' and that the land donor is not affected adversely as a result of the land donation. Involuntary land acquisitions, however, requires much more focused and planned attention as it could result in economic and/ or physical displacement and consequently several adverse impacts. **However, impacts and risks are expected to be much lower as RIDP will not finance any activities which require permanent physical displacement. The RPF therefore will define the procedures for: (i) acquiring land (voluntary and involuntary after all technical alternatives have been exhausted), (ii) dealing with any residual impacts from land acquisition (i.e. identifying, establishing the valuation of, and compensating people that suffer economic losses or loss of private property, (iii) monitoring and verification that policies and procedures are followed, and (iv) grievance redress.**

274. Where required, the project will prepare resettlement action plans (RAPs) or abbreviated RAPs (ARAPs), based on the principles of the RPF and , following environmental and social screening. Given the minor land acquisition and small number of PAPs involved, the project is most likely to prepare ARAPs. Such resettlement plans will focus on permanent economic displacement and temporary economic and physical displacement resulting from land acquisition by the project. The socio-economic baseline in the ARAPs/RAPs may draw on information/analysis from community (qishloq) development plans.

275. However, preparing ARAPs/RAPs at appraisal is not possible as the subprojects will become known only during the implementation phase. While the broad category of activities and impacts is foreseen, exact magnitudes can become known only after detailed subproject designs are made. Hence, towards preparing a ARAP/RAP, Project preparation included the development of a Resettlement Policy Framework (RPF). The key objective of the RPF is to provide a framework through which to appropriately identify, address and mitigate adverse socioeconomic impacts that may occur due to the implementation of subprojects that involve the involuntary acquisition of land and the subsequent resettlement of affected families.

276. The RPF also serves the following specific purposes:

- Reviews the existing national legal framework, compares it with the World Bank Operational Policy for Involuntary Resettlement (OP 4.12) for gaps, if any, and indicates gap-filling measures;
- Describes the approach to the securing private land, assets and other common property resources;
- Specifies the scope of the project with a well-defined exclusion list;
- Defines the valuation process of impacted assets;
- Defines the process for ARAPs/RAPs and their review;
- Defines of the cutoff date for Title and Non-Title holders;
- Identifies the consultation mechanisms/approaches to be adopted while preparing and implementing ARAPs/RAPs including public disclosures;
- Defines the monitoring and evaluation arrangements including Grievance Redress Mechanisms (GRM); and
- Defines the institutional and implementation arrangements --role/responsibilities of different stakeholders.

277. Subproject-specific ARAPs/RAPs will be prepared in accordance with the RPF. The corresponding safeguards document for other social and economic impacts not associated with land acquisition and restrictions is the Environmental and Social Management Framework.

278. This RPF is based on relevant National laws and Decrees as well as the World Bank OP-4.12. The guidelines of the RPF apply to all the investments financed by the RIDP. The RPF applies to all economically and/or physically displaced persons regardless of the total number affected by the severity of impact and whether or not they have legal title to the land. Particular attention will be paid to the needs of such vulnerable groups like women-headed households, low-income households, households headed by the elderly with no support, and households headed by physically challenged people. RPF preparation has been participatory, based upon consultations with a variety of stakeholders and the draft framework was disclosed on the Ministry ofEconomic Development 's (MoED) website on August 16, 2019 for evincing feedback. Subsequently, three workshops have been held (in Tashkent, Syrdarya and Namangan on August 27-29, 2019) for disclosing the same.

279. There are some differences between the World Bank OP policies and Uzbekistan's legislation in the sphere of involuntary resettlement. The main discrepancies include: (i) providing detailed explanations of entitlements to project affected households, (ii) provision of just compensation instead of full replacement cost, (iii) defining the cut-off date, and (iv) carrying out socioeconomic surveys. The RPF has been prepared by harmonizing to the extent possible the two policies. However, The World Bank OP 4.12 will prevail in cases of differences in substance and/ or in the interpretation between WB and Uzbekistan legislation.

280. Each subproject needs to be screened for social impacts based on the given designs for the proposed improvements to determine if there are any impacts that require the preparation of the ARAP/RAP that entitles Project Affected Persons (PAP) to resettlement assistance. Based on the harmonization efforts and the impacts likely to occur, an Entitlement Matrix (EM) has been developed, that summarizes the types of losses and the corresponding nature and scope of entitlements. Compensation and rehabilitation assistance for various categories of losses based on the tenure and magnitude of impact has been provided. Additional assistance to vulnerable, reimbursement of transaction costs in relation to those who receive land for land compensation, purchasing land/property with the compensation and assistance in the name of women, cash assistance for housing to physically displaced squatters, are some of the provisions contained in the EM.

281. In order to ensure that ineligible persons do not take the opportunity to claim eligibility, a cut-off date will be established. The cut-off date will be the last date of the census. It is a date after which people who are not included in the list of Project affected persons (PAPs)[27] as defined by the census will not be considered eligible for compensation. The replacement value of houses, buildings and other immovable properties will be determined on the basis of market value as on date without depreciation. Compensation for trees will be based on their market value and compensation for the loss of crops, fruit-bearing trees will be decided by the Agricultural Department at respective districts. Prior to taking possession of the land or properties, the compensation will be fully paid and PAPs will have the opportunity to harvest crops/trees within 30 days from the date of payment of compensation.

282. The involvement of PAPs in planning prior to the move is critical. PIU will be responsible for organizing and conducting public consultations with community groups affected by each subproject prior to completion of the site-specific ARAP/RAP. Public consultations will be conducted as a meeting in each subproject. Any legitimate issue raised through the public consultation should be included in the RAP. The concerns of PAPs will be taken into account and reflected in subproject implementation.

283. The Resettlement Policy documents including RPF, ARAPs/RAPs (in case there will be any type of involuntary resettlement due to land acquisition by the project) and due diligence reports will be disclosed to the public through all possible channels including social media, websites, posters in Mahalla and Hokimiyats. The documents available in the public domain include: Entitlement Matrix, Grievances Redresses Mechanism, institutional arrangements and the categories of eligible PAPs for various R&R benefits.

[27] Persons who as a result of Project activities, for reasons of the involuntary taking or voluntary contribution of their land and other assets, and with/ without title, results in direct economic and or social adverse impacts, regardless of whether or not PAPs are required to physically relocate.

9. GENDER, CITIZEN ENGAGEMENT AND LABOR

9.1 Gender

284. The Project will focus on closing two gender gaps: (i) the gender gap in voice and participation in community-level and local governance decision making; and (ii) the gender gap in access to services.

285. Regarding the first gap, women's low levels of representation in parliament and local decision-making committees highlight their lack of voice and agency. As of 2017, Members of Parliament comprised only 16 percent women despite a quota requiring that women comprise 30 percent of political parties' candidate lists. Women are also underrepresented in other high-level decision-making positions. In 2017, all hokims in 14 regions and the city of Tashkent were male. Among 84 deputy hokims of regions, only 14 (16.67 percent) were women. As of May 2019, women comprised fewer than 10 percent of the regional governments in all three of the Project's target regions— 8.3 percent of 60 positions in Ferghana, 8.6 percent of 58 positions in Andijan, and 5.2 percent of 58 positions in Namangan. Women were better represented at the district level, accounting for 193 of 1,772 deputy district hokims (25 percent) in 2017. At the local level, older men traditionally dominate MCA decision-making positions. As of July 2018, women held 19.5 percent of MCA chair positions within the Ferghana Valley and 16.3 percent of chair positions nationally.[28] Following the GoU's introduction of elections by secret ballot for mahalla chairs, which took place in May 2019, women currently hold 15.7 percent of chair positions in the Project's 14 target districts in Ferghana Valley and 12.3 percent of chair positions nationally.[29] Each MCA reserves a seat for a representative of the local Women's Committee, who is responsible for working directly with local women and "strengthening the spiritual and moral values of families."[30] Thus, the representative is not focused on empowering women to ensure their voices are influential in MCAs or to confirm they have access to economic and other opportunities. When asked how much influence the former Women's Committee representative on the MCA has over the distribution of local government funds, only 11.1 percent of men and 12.1 percent of women said they were very influential, compared to 33.4 percent of men and 33.5 percent of women who reported that the mahalla chair is very influential.

286. A mounting body of evidence suggests increasing the profile of women, as well as representatives of minority groups, in elected office and public service has meaningful effects on the quality of public goods provision, the types of public goods that are provided including goods and services that meet the needs of the most vulnerable populations, civil service organizations' ability to understand the needs of their clients, the quality of political leaders, and the degree of corruption in the bureaucracy.[31] To address the gender gap in voice and participation, the Project has established 50 percent targets for women's representation in , MDU, water users associations, and social accountability roles, i.e.,, monitoring and oversight. The baseline levels for women's current representation in district hokimiyats, MCAs executive committees, and community drinking water organizations in the Project's qishloqs will be collected and included in the POM.[32] Engagement in the CDD Project cycle will be measured through a project development objective indicator: the percentage

[28] This figure is based on a regionally representative sample of MCAs conducted as part of the L2CU survey in June/July 2018. World Bank 2018b.

[29] The comparison between the percentages of women who hold chair positions before May 2019 and after May 2019 is not comparable. The task team lacks data on the percentage of chair positions that women held in the 14 target districts before May 2019.

[30] Decree of the President of the Republic of Uzbekistan. 2018. On measures to fundamentally improve activities in the sphere of supporting women and strengthening the institution of the family. No. UP-5325, 2 February 2018. (http://lex.uz/docs/3546745); Women's Committee of the Republic of Uzbekistan. 2018a. What changes are taking place in the process of executing the Presidential Decree? 3 March. [Cited 17 August 2018]. http://wcu.uz/o-skripte/128-kakie-izmeneniya-proishodyat-v-processe-ispolneniya-ukaza-prezidenta.html#sel=6:1,30:34.

[31] Timothy Besley, Olle Folke, Torsten Persson and Johanna Rickne. 2017. "Gender Quotas and the Crisis of the Mediocre Man: Theory and Evidence from Sweden." American Economic Review 107(8):2204–2242; Brollo, Fernanda and Ugo Troiano. 2016. "What happens when a woman wins an election? Evidence from close races in Brazil." Journal of Development Economics 122:28–45; Amanda Clayton and Pär Zetterberg. 2018. "Quota Shocks: Electoral Gender Quotas and Government Spending Priorities Worldwide." The Journal of Politics 80(3):916–932; Cedric Herring. 2009. "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity." American Sociological Review 74(2):208–224; Thomas B. Pepinsky; Jan H. Pierskalla and Audrey Sacks. 2017. "Bureaucracy and Service Delivery." Annual Review of Political Science 20:249–268.

[32] As district implementation teams, MCA project committees and social accountability roles are project specific. Baseline values will be drawn from the most relevant type of organizations—district hokimiayts, MCAs' executive committees, and water users associations.

of beneficiaries (male/female) who report having participated in the planning, decision making related to, or monitoring of subprojects.

287. As for the second gap, one of the major service delivery gaps women in Uzbekistan face is access to preschools. The L2CU revealed that country wide, only about one-quarter of children aged 3–6 attend preschool. In the bottom consumption quintile, only 17 percent attend preschool, compared to 33 percent among those in the top quintile. Qualitative evidence from two separate studies conducted in 2018 suggests that the absence of preschools in rural areas is a main constraint preventing women from entering the labor force.[33] L2CU survey data confirm that female labor participation is significantly lower than males'. The Uzbek labor market is characterized by low female labor force participation (only 26.1 percent), which is roughly half that of males (52.5 percent), and a high female unemployment rate (11.4 percent), which is more than twice the rate for males (5.1 percent). Among those aged 15–24, 24.5 percent of women are unemployed compared to 13.2 percent of men. Among those aged 25–34, 14.6 percent of women are unemployed compared to 4.4 percent of men. The female labor force participation rate is 21.7 percent (compared to 52.3 percent for men) in Andijon, 24.6 percent (vs. 52.9 percent for men) in Namangan, and 30.2 percent (vs. 55.1 percent) in Ferghana. Women's share in formal employment (47.6 percent) is significantly lower than men's (56.6 percent). Women are more likely to be either "full-time homemakers" or simply not in employment compared to men.

288. Women in Uzbekistan incur the largest nonmonetary burden of inadequate water supply services. Women are the primary collectors, users, and managers of domestic water, and are in charge of family hygiene.[34] Only 37.8 percent of households in Ferghana region have piped water in their dwellings or compounds; the proportions are slightly higher in Andijon (41.1 percent) and Namangan (42.5 percent).[35] The majority of the remaining households in Ferghana Valley rely on public taps for water. On average, it takes households in Namganan, Ferghana, and Andijon 18.9 minutes (28 person-hours per month), 13.2 (19.8 person-hours per month), and 7.7 minutes (11.5 person-hours per month), respectively, to reach the water tap, obtain water, and return to the household. According to 2015 survey data, 85 percent of surveyed households that were unconnected to water pipes reported that adult females typically participate in collecting water.[36] In 98 percent of the surveyed households, women were responsible for cooking, washing dishes, and doing laundry. Among unconnected households, many survey respondents felt that a household connection to networked water supply and sanitation would benefit women in particular. Focus groups suggest that women are also generally responsible for household water treatment, which involves boiling it to make it safe for drinking. In the cold season, they must heat water for laundry, bathing, and cattle watering. Qualitative data from two separate studies reveal the impacts of poor access to water on women's time and physical health. In both studies, many women in focus groups reported lower back pain from repetitive lifting and moving heavy containers and other physical injuries.[37]

289. The Project seeks to address these gender gaps in public service provision, taking specific actions to ensure that women both influence the decision-making process and are beneficiaries of the subproject investments. By increasing women's participation in mahalla project committees and district selection committees and ensuring that the project committees conduct outreach with women's groups, the Project gives women a stake in decision making to ensure that service delivery meets their specific needs and priorities. The literature provides ample evidence that women's participation in community-level decision-making increases budget allocations for services that benefit them and makes the services more accessible and responsive, particularly local health services, in addition to personal safety and social protection. In India, for example, increasing women's participation in local government led to a greater investment in drinking water

33 World Bank. 2018c. *Uzbek Population Risk and Vulnerability Assessment*. Washington, DC: World Bank; Nina Kolybashkina et al. 2019. *Listening to Citizens of Uzbekistan: Qualitative Results*. Washington, DC: World Bank.

[34] World Bank. 2015. *Social Impact Analysis of Water Supply and Sanitation Services in Central Asia: The Case of Uzbekistan*. Washington, D.C.: World Bank.

[35] World Bank 2018b.

[36] World Bank 2015.

[37]Nina Kolybashkina et al. 2019; World Bank 2015. In addition, an ADB survey from the Fergana Valley found that women and girls bath less frequently when water in the household is limited. Asian Development Bank. 2013. *A Story within a Story, Gender and Water in Uzbekistan*. Asian Development Bank Publication Stock No. ARM135374-3.

infrastructure and an increased availability of public goods.[38] As an intermediate results indicator of women's access to services and infrastructure, the Project will track and measure the percentage of women's priorities (i.e.,, facility, service or infrastructure project) that receive subgrant financing (target: 50 percent). At the PDO level, the Project will track the percentage of beneficiaries (male/female) who report that Project investments in basic rural infrastructure met their needs. At the intermediate level, the Project will track the percentage of female beneficiaries who report that the Project investments improved their access to infrastructure.

9.2 Citizen engagement

290. The Project's design ensures citizen engagement throughout the Project cycle. Under Component 1, communities will carry out participatory needs assessments and engage in participatory decision-making processes that result in the identification of subprojects that reflect the priorities of and are relevant to beneficiaries. To ensure that regional and district hokimiyats and MCAs are accountable for resources and responsive to the preferences and needs of community members, including vulnerable groups, the FP's will provide capacity-building for local government and community officials on how to engage with citizens and deliver services efficiently, fairly, and in response to the needs of citizens, including women, youth and the disabled. The FP's will train women in conducting social audits and reporting back to the target communities on the progress of implementing the subproject over the year, the breakdown of expenditures, and any financial or technical audit findings. This type of event will provide a public forum for communities and their representatives to present problems and express grievances or other issues regarding the Project. In addition, to bolster oversight of project expenditures, the Project will require citizens to sit on tendering committees that the SCSes organize for the infrastructure projects financed by Subcomponent 1a. The Project will also require MDU representatives to sign-off on progress reports before the PIU pays the contractors for the work. The FPs will provide training to community members to enable them to fulfill these two oversight functions. The Project's results framework includes indicators to measure progress of the procurement monitoring, as well as beneficiary's perceptions of the effectiveness of these engagement processes and Project investments.

[38] Raghabendra Chattopadhyay and Esther Duflo, "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India." *Econometrica* 72 (5, 2004): 1409–43; Esther Duflo and Petia Topalova, "Unappreciated Service: Performance, Perceptions, and Women Leaders in India," Working Paper. Cambridge, MA: Massachusetts Institute of Technology.

Table 14. Citizen engagement plan

№	Activities	Methodology	Timeframe for implementation	Expected results	Responsible persons/partners	Indicators for M&O
Objective: to create a sustainable model of citizen engagement in the project management process, disclosure of information to stakeholders.						
Results Area 1: Project/sub-project management						
1.1.	Coordination and approval of the list of mahallas \ Qishloqs, falling under the impact of the project.	Overview of reports of the National Admissions Office and the number of appeals to the district / regional khokimiyats. Overview of socio-economic indicators of the regions.	Periodically, according to the financing schedule.	In the context of the project areas created a map of stakeholders.	PIU, National reception offices of the President of the Republic of Uzbekistan, headquarters "commissions at regional khokimiyats	Number and subject of citizens' appeals for each makhalla.
1.2.	Mapping of stakeholders at the level of mahalla, district and region. Assessment of the potential of stakeholders (financial, labor and other resources).	Information gathering, database development. Creation of a digital information system (social networks, pages in Fb, emailing)	The initial phase of the project activity	Electronic database of stakeholders, including representatives of pilot communities.	PIU, commissions at the regional khokimiyats	Quantitative and qualitative composition of stakeholder maps
1.3	Development of indicators for assessing the potential of implemented subprojects to obtain additional funding for component 1b. Inclusion of information on indicators into general information regarding projects / subprojects.	- Lessons learned from other international community mobilization projects. - Improvement / refinement of indicators after the completion of the first round of subprojects.	The initial phase of the project activity	Toolkit for capacity assessment of implemented sub-projects.	PIU with the support of representatives of WB, NGO	The number of indicators, their ability to collect objective and fair information.
1.4	Creation of a committee / consulting council of mahalla leaders (men and women), ensuring their participation in the DPC meetings	- Organization of a general meeting of the inhabitants of the makhallas. - Organization of the process of selecting 5-7	Introductory phase of subprojects	Created consulting advice / committees	PIU / headquarters "of the regional level commissions, MCA, MDU	Number and composition of the committee/advisory board. % of women and youth in this body.

		people from among the leaders				
1.5	Information campaigns in selected mahallas on the progress of the project.	Information meetings with community representatives	Introductory phase of subprojects	Raising awareness among project beneficiaries and PAPs	Public Relations Specialist PIU / DPC	Number of informational campaigns. Number of people (including women and youth) covered by the activities
1.6	Community consultations by community residents to identify subprojects	General meeting of community residents with the mandatory participation of women and youth at least 50%	Introductory Phase of Subprojects / Periodically	"Voice of the beneficiaries" heard, the choice of the current subproject.	PIU/ DPC	Number of beneficiaries who participated. Types and number of "votes" per proposed sub-project
1.7	Creation of working groups of community residents at MCAs	Community meetings, election of representatives to working groups, development of regulations	Introductory phase of subprojects	A working group has been established with the authority to represent the community in the implementation of the sub-project	MCA, MDU Advisory Board/Committee	Number of participants in the working group, gender and age composition.
1.8.	Ongoing public awareness of the progress	Periodic meetings with the population	Every 6 months, based on the results of subprojects	Constant awareness of the population, ensuring public monitoring.	PIU, DPC	Number and frequency of information events.
2. Results Area 2: Project finance management»						
2.1.	Organization of access to financial information about the cost of subprojects at MDU	- Access to financial documents - brief information on types and costs of expenses. - Access to quotations of commercial suppliers of goods/services (minutes of organized tenders)	Introductory phase of subprojects	Interested parties have free access to information.	PIU / buyers, representatives of the district khokimiyat, DPC	Access mechanism / convenience

2.2.	Providing information on the cost of subprojects (project costs and service providers) in meetings with community representatives. Providing financial justification.	The book of registrations of citizens' appeals for the purpose of obtaining information, an information board with announcements. Informational meetings.	During the planning and implementation of subprojects	Beneficiaries are informed about the cost of the subproject, supervision over the targeted use of funds	PIU / buyers, representatives of the district khokimiyatDPC	Number of meetings, number of calls
2.3.	Review of existing WB projects in project areas, ensuring synergy of project resources.	Joint action plan of the PIU of WB projects.	In the implementation of the project.	Enhancing project impact by attracting opportunities from other WB projects	PIU with WB support	Number of joint plans / events.
2.4.	Social audit of the targeted use of funds on the basis of the implementation of subprojects	Providing a report on the funds used at the general meetings of the villagers.	According to the results of the implementation of subprojects.	Monitoring by beneficiaries of targeted/directed use of resources. Quality control of performed works	PIU / DPC	% of beneficiaries / population reporting participation in social audit
2.5	Organization of public access to project information	Organization of public access to project information. Publication of reports on the project \ subprojects.	By the end of the year (calendar or fiscal year)	Increase public awareness. The possibility of public control.	PIU / Liaison Specialist	Content of publications, mechanism of distribution of publications, consumers of publications
Results area 3: Improving service delivery through social screening.						
3.1.	Organization of ongoing monitoring of subprojects / project implementation on the principles of public participation	Organization of consultations, focus groups with beneficiaries and PAP subprojects, of project	During project implementation, according to the project/subproject monitoring plan	Ensuring the principle of beneficiary participation, quality control of implemented subprojects	PIU / Monitoring and Evaluation Specialist, Regional Engineers	Number of beneficiaries involved in the monitoring process, their gender and age
3.2.	Analysis of citizens' appeals according to GRM, created within the framework of the project.	Registration books at MDU Collection of information about citizens' appeals to district/regional	During project implementation/ periodically according to GRM	Timely response to project impacts and mitigation measures.	PIU /public relations specialist	Number of references, subjects of references

		khokimiyats and people's receptions. Collection of information on appeals to the judicial authorities.				
3.3.	Monitoring of the implementation of the resettlement, land acquisition and compensation plan.	Collection and analysis of resettlement, land acquisition and compensation.	Based on the results of the first phase of implementation of the subprojects/ periodically	Ensuring protection of the legitimate interests of PAPs in land acquisition, resettlement, compensation	PIU	The number of requests of beneficiaries orPAPs on this issue. Review of mitigation measures taken.
Results area 4: Natural resource management: environmental conservation measures						
4.1.	Training of representatives of the advisory council and working groups on WB protection measures	Conduct informational seminars at the community level.	During the project implementation	The level of competence of beneficiaries in social and environmental screening of the project / subprojects will increase	PIU / consulting company / NGO	Number of seminars organized, number of participants, gender and age composition of participants
4.2.	Assessment of the environmental impact of the subproject on the principles of participation.	Assistance in developing monitoring tools for community members	During the project implementation	Identification of environmental risks, reporting of PIU on possible consequences	PIU / environmental specialist	Number of beneficiaries and PAPs involved in the assessment
4.3.	Collection of facts of the negative impact of project activities on the environment, public consultations	Public meetings and consultations with the population affected by project activities.	During the project implementation	Timely response to possible environmental risks, mitigating temporary measures	PIU / environmental specialist	Number of public consultations % of beneficiaries and PAPs who noted the importance of these activities
4.3.	Monitoring the implementation of the environmental impact plan on the principles of participation.	Monitoring activities according to the plan	During the project implementation	Reducing time and future environmental risks in communities.	PIU / environmental specialist	Number of beneficiaries and PAPs involved in the assessment
Results area 5: inclusion / empowerment.						

5.1.	Annual final meetings with representatives of pilot communities at the level of regional khokimiyats to inform about the achievements of the project.	General meeting of the project executors, DPC, community leaders (including women and youth)	At the end of the project / fiscal year.	A dialogue has been created between the state and the population	PIU / regional khokimiyats,	The number of final meetings % representatives of project areas (mahallas) % of women and youth from among the participants,
5.2	Ensuring the participation of at least 50% of women and young people in the advisory council (paragraph 1.4 of this plan)	The general meeting of the population		Participation of women and youth in the management body is ensured.	PIU \ Social Affairs Specialist / DPC	% of women and young people elected to public administration structures
5.3.	Ensuring the participation of women and youth, and other vulnerable persons (disabled, low-income) in the management and implementation of project activities.	Implementation of requirements in project documents.	The period of preparation of project documents, instructions.	The project documents take into account the interests of different social groups.	PIU / DPC	Age and gender analysis of persons involved in the project implementation
5.4	Review of the implementation of the gender plan	Involving an independent gender specialist. Visiting them to the project regions.	In the process of general monitoring and evaluation	“Voice of Women” was taken into account in the implementation of the project / subprojects, women had the opportunity to participate in the management of subprojects.	PIU / Social Specialist.	% and quality of women’s project activities

9.3 Labor management plan

291. **Labor.** Three dimensions merit discussion – child labor, forced labor, wages, and migrant labor. The project emphasizes and adopt ILO's concept of 'decent work'. This implies:Work that is free, fairly paid, safe, socially protected, not diminishing human dignity, opening equal starting opportunities for all, guaranteeing participation in making management decisions and personal development. These fundamental principles of decent work will underscore implementation of sub-projects. . Over the past four years, ILO's third-party monitoring (TPM) has demonstrated Uzbekistan's major progress in eradicating child labor and forced labor in the cotton sector. Systematic or systemic child labor can no longer be considered a serious concern. Yet, a considerable number of forced labor cases are still observed in the cotton sector. In addition, the media has recently reported on a number of alleged forced labor incidents in public works projects. Consequently, considerable work remains to be done. There is a continued strong political commitment and clear communication from the government of Uzbekistan to eradicate forced labor. The Government is encouraging journalists to cover forced labor cases. Local independent human rights activists are free to monitor labor conditions. The government is continuing to strengthen the labor inspectorate. In 2018, the ILO trained 200 inspectors on forced labor investigations and the Government deployed them throughout the country to investigate alleged forced labor cases. As plenty of labors are available in the rural areas, the livekihood of labor influx is small. Most works will deploy laborers locally. However, capacity building measures will ensure that the local Mahalla Committees and District Authorities as well as other Service Providers will take due note of the decrees of the GOU and ensure avoiding Forced and Child Labor deployment. Also, the project will ensure that relevant measures to manage labor influx will be undertaken if necessary.

292. **Component 2 will support measures to ensure no forced labor is used in the Project.** Forced labor mitigation measures will include capacity building of regional and district hokimiyats and residents (including MCA chairs, women, youth, activists) of selected villages on national labor legislation including norms regulating public works that strictly prohibit the use of forced labor. For this purpose, PIU will collaborate with specialists from the International Labor Organization (ILO) and labor inspectors from the Ministry of Employment and Labor Relations (MoELR) to: (i) provide regular trainings to hokimiyats and MCA members on labor practices; (ii) monitor and report on any cases identified; and (iii) implement a public awareness campaign on labor rights, practices, and grievance redress systems. The PIU will build an internal communications channel with MoELR's Labor Inspectorate to report on cases of forced labor submitted through the Project's GRM and facilitate the investigation process. The Project will also coordinate with MoELR on setting up mechanism for efficient use of the Public works Fund's resources under MoELR to reduce cases of forcing civil servants to contribute labor to public works projects.

293. When applying WB OP 4.03 Labor and Working Conditions requirements to RIDP the Labour Code (LC) of the Republic of Uzbekistan (approved by the Law on December 12, 1995) is considered as a base document. LC addresses the provisions relating to non discrimination in labour relations, protection of labour rights, subjects of labour relations, representation of workers and employers, collective agreements and collective bargaining, job placement, labour contract, working time, rest and leave, wages, guarantee and compensation payments, labour discipline, material responsibility of labour contract parties, labour protection, additional guarantees and advantages to several categories of workers, labour disputes and State social security.

294. Uzbekistan has ratified all eight fundamental International Labour Organization (ILO) Conventions10 including the Forced Labour Convention, 1930 (No. 29) and the Abolition of Forced Labour Convention, 1957 (No. 105).

295. Article 37 of the Constitution of the Republic of Uzbekistan 11 prohibits forced labour. Forced labour is also clearly prohibited by Article 7 of the Labour Code.The national legislation of Uzbekistan has established penalties for the use of forced labour (articles 51 and 491 of the Administrative Code, articles 135, 138, 148 of the Criminal Code).These provisions are in compliance with the ILO Forced Labour Conventions.

296. In 2018, resolutions issued by President and Cabinet of Ministers govern the labour issues in agriculture and they will be considered in RIDP (Table 15):

Cabinet of Ministers Resolution #14928/02/2018	Measures for a wide implementation of market mechanisms in agriculture

Cabinet of Ministers Resolution #34910/05/2018	Additional measures to eradicate forced labour in the Republic ofUzbekistan
President Resolution #PP-391320/08/2018	On Measures for Improving the Structure of Labour Governance Bodies and Strengthening the System for Protection of LabourRights and Occupational Safety and Health
President Decree #PQ-357428/02/2018	On optimizing cotton and wheat production and related financing systems. Cotton farming on low yield land with highforced labour risks should be reduced.
Cabinet of Ministers Resolution #70330/08/2018	An explicit ban on forced labour in the 2018 harvest. Incentivesto attract voluntary pickers announced, together with wageincreases. A recommendation that textile clusters exceed minimum wages.
Cabinet of Ministers Meeting 08/09/2018	An explicit ban on forced labour in the 2018 harvest. Deploymentof labour inspectors against forced labour. Awareness raising onforced labour. Decent working and living conditions to beassured for cotton pickers.

Table 15: Relevant legislation

297. Forced Labor: Forced labor is prohibited in Uzbekistan. In accordance with Article 7 of the Labor Code, forced labor is prohibited, that is, coercion to perform work under the threat of any punishment (including as a means of maintaining labor discipline). Forced labor is punishable by a fine of 2 to 5 times the minimum wage. The exceptions are the work required for compulsory military service, normal civilian duties, resulting in a conviction in court and under certain conditions in emergency situations, as well as minor communal work performed by community members in the direct interests of society. In addition, Decree No. 349 of the Cabinet of Ministers of the Republic of Uzbekistan dated May 10, 2018 “On Additional Measures to Eliminate Forced Labor in Uzbekistan” gave detailed information on the types of forced labor, types of state organizations and their personnel, and the mechanism for monitoring regions. According to this decree, the financial resources of the Public Works Fund established under the Ministry of Employment and Labor Relations will be used for any public works in Uzbekistan.

298. Child labour: The term "child labour" is often defined as labour that deprives children of childhood, their potential and dignity, and that is harmful to their physical and mental development. The Labour Code and Convention No. 138 of 1973 concerning Minimum Age for Children under 18 years of age set the minimum age. Under article 49 of the Administrative Liability Code of the Republic of Uzbekistan, the employment of persons under 18 years of age by a legal entity is punishable by a fine of between 5 and 10 times the minimum wage.

- Work that is mentally, physically, socially or morally dangerous or harmful to children.
- Interfering with their education.
- Depriving them of their ability to attend school.
- Obliging them to leave school forever.
- Requiring them to try to combine school attendance with excessively long and hard work.

299. The PIU and their representatives in the project areas shall conduct monitoring on issues of decent work, occupational health and safety. In cases of violation of the requirements of the World Bank, national labor legislation (forced labor), the PIU has the right to request that the sub-borrowers be audited by the State Labor Inspectorate of the Ministry of Employment and Labor Relations of the Republic of Uzbekistan.

10. SOCIAL PROCESS FOR SCREENING, PREPARING AND APPROVING RAPs and REPUTATIONAL RISKS

10.1 Negative / Exclusion List

300. It has been agreed that no activities which could result in physical displacement (consequent to acquisition of lands/ structures) will not be financed under the project. Thus, this forms the first level of screening. Further, once it is established that no physical displacement will occur, the project will proceed further to decide on the likely impacts and the relevant instruments to be adopted. Further, towards insulating RIDP against any reputational risks, it has been decided that the country's main OQ program will not be implemented in the RIDP villages. Thus, these two would form the first level of filters. The project may result in permanent economic displacement and/or temporary economic and physical displacement due to land acquisition and therefore it may be necessary to prepare ARAPs/RAPs.

10.2 Screening for Involuntary Resettlement

301. Screening is a Mandatory Procedure for the identification of possible involuntary resettlement. The purpose of screening is to determine the appropriate extent and type of the involuntary resettlement to be conducted. Each subproject will be screened for social impacts based on the given designs for the proposed improvements envisaged. Farmers lands and built-up sections will be identified during screening requiring different treatment and accordingly suitable modifications to the design/alignment cross section/detours should be proposed to minimize social impacts. Further the screening exercise should identify all aspects that could lead to adverse environmental and social impacts and involuntary resettlement, regardless of the source of financing; from all activities that are necessary to achieve project objectives as set forth in the project documents; and are carried out, or planned to be carried out, contemporaneously with the project. The social screening serves to ensure that the process for screening remains simple and concise. Specific questions based on each activity of the RIDP might be added as seen relevant by the PIU Social Safeguard Specialist (SSS). The list of project activities that have potential resettlement issues will then be subjected to a comprehensive sensitization and consultation process with the potentially impacted communities and the outcome of this process would be documented for each subproject. The list and the outcome of the consultative process for each site/project activity on the list would then be sent to the respective implementing agencies in the jurisdiction mandated to confirm, approve, disapprove, refer for further consultation and/or take a final decision on each proposed site/ project activities. Carrying out the screening process in this way is designed to give it the integrity and transparency it needs to allow all stakeholders to have confidence in the process.

302. For project activities that do not have any resettlement issues and do not trigger World Bank OP 4.12, the provisions of the RPF /social provisions of the ESMF does not apply. Individuals or communities may opt to make voluntary land donations for the project, subject to prior Bank approval, provided that the project demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The project will maintain a transparent record of all consultations and agreements reached. (See Annex 15)

303. The screening and categorization of impact on involuntary resettlement in subprojects will be initiated by PIU/RPCU either with its own social safeguard specialist and other relevant staff or, if there are no such skills, with the help of external consultants. The social screening report will be prepared by the PIU/RPCU's SS and reviewed by an Authorized person of the Implementing Agency and/or PIU Director for clearance. The SSS and Director at PIU will finally endorse the social screening and safeguard categorization of the proposed subproject.

304. Subproject screening is used to identify the types and nature of potential impacts related to the activities proposed under the Project and to provide adequate measures to address the impacts. Screening for resettlement issues shall be part of the environmental and social screening, as is detailed in the ESMF. Measures to address resettlement ensure that PAPs are:

- Informed about their options and rights pertaining to resettlement;
- Included in the consultation process and given the opportunity to participate in the selection of technically and economically feasible alternatives;
- Provided prompt and effective compensation at full replacement cost for;
- Losses of assets and access attributable to the subproject(s).

305. For projects not anticipated to result in displacement, and where loss of assets are anticipated to be negligible, then this information willl also be indicated in the subproject application form along with a request to waive the requirement for a RAP.

10.3 Screening Checklist

306. The screening checklist form will be incorporated into the Project's Implementation Manual. The screening checklist will be completed by an SSS at PIU/RPCU and submitted to PIU for a decision. Based on screening results an appropriate social safeguards instrument will be developed.

- **Due Diligence Report (DDR)** explaining the procedures adopted to minimizes negative impacts and measures taken to mitigate construction induced impacts will be prepared for subprojects which will result in minor impacts affecting access to residences, improvement of existing properties.
- **Resettlement Action Plan (RAP).** If 200 people or more or affected.
- **Abbreviated Resettlement Action Plan (ARAP)** is prepared for investments of subprojects of the RIDP which will result in affecting less than 200 people, but not physically displaced and/or less than 10% of their productive assets are lost. Detail outline of ARAP is given in Annex 5 attached to this RPF.

307. The **ESMF** serves as an environmental and social **safeguards instrument** to address those issues not related to 'lands' but others such as those affecting inclusion, equity, transparency, accountability, labor, quality control, and construction delays.

10.4 Baseline and socio-economic data

308. Socio Economic Survey: As the project is likely to prepare mostly ARAPs, the socio-economic data and analysis in the the qishloq development plans will suffice for the baseline in determining compensation and other resettlement actions, as well as establishing monitoring and evaluation parameters. Any socio-economic analysis should cover all major impacted PAPs. The analysis should also include gender-disaggregated data to address gender issues in resettlement.

309. For more detailed RAPs, in which land acquisition would result in the (temporary) physical or economic displacement of more than 200 PAPs, a socio-economic survey shall be carried out using a structured questionnaire. This questionnaire would capture details of standard of living, inventory of assets, sources of income, level of indebtedness, profile of household members, health and sanitation, access to services and facilities, perceived benefits and impacts of the project and resettlement preferences of all major impacted households likely to be displaced. This information along with the census survey data would facilitate the preparation of a resettlement plan to mitigate adverse impact. See Annex V, which includes the elements of a RAP, including the requirements for the socio-economic baseline.

310. Consultations are a key part of preparing the socio-economic baseline for RAPs and ARAPs. Stakeholder engagement should be wide-ranging, with the aim of ascertaining PAPs' views and preferences. Based on the outcome of these consultations design changes, if required, and mitigation measures will be incorporated. Consultations will include women and their concerns and reactions to the project will be addressed through appropriate mitigation plan.

311. Abbreviated Resettlement Action Plan: An Abbreviated Resettlement Action Plan (ARAP) is acceptable if fewer than 200 people are displaced. Even if more than 200 people are affected, if all land acquisition is minor (10 percent or less of all holdings is taken) and no physical relocation is involved, an ARAP is acceptable. Resettlement impacts are considered minor if (a) all of the displaced persons lose less than 10 percent of their land, regardless of the number of displaced persons; (b) the remainder of their land is economically viable; and (c) they have no need for physical relocation.

312. The ARAP needs to be consistent with the provisions of the resettlement policy framework (RPF).

313. The ARAPs for the subprojects need to be approved as a condition of financing of the subprojects.

314. The plan should cover the following minimum requirements:

a) a census survey of displaced persons and valuation of assets;
b) description of compensation and other resettlement assistance to be provided;
c) consultations with displaced people about acceptable alternatives;
d) institutional responsibility for implementation and procedures for grievance redress;
e) arrangements for monitoring and implementation; and
f) a timetable and budget.

315. The scope and level of detail of the plan will depend on the magnitude and complexity of risks and impacts.

316. A detailed outline for the ARAP is in Annex 16.

10.5 Preparation of a Subproject RAP/ARAP

317. After clearance from the PIU, local government (regional, district hokimiyats) the compensation, resettlement and rehabilitation activities of the RAP will be satisfactorily completed and verified by the communities before funds can be disbursed for civil works under the subproject. The RAPs will comply with the principles outlined in this RPF adopted for the project. All ARAPs/RAPs prepared by the project will be subject to prior review by the Bank until there is a mutual agreement to discontinue the prior review. ARAPs/RAPs must be approved by MoED and disclosed on MoED's and the World Bank's portals prior, to the invitation of bids for civil works. Disbursement of compensation payments and entitlements will be made prior to displacement and prior to handing over of the land parcels to civil work contractors.

11. PROJECT POTENTIAL ENVIRONMENTAL IMPACTS

318. The initial environmental and social assessment of the types of subprojects that might be supported under the project showed their relevance from an environmental and social perspective. The project will generate positive social and economic benefits through the creation and maintenance of the necessary infrastructure, subject to the prevention of negative environmental impacts, mainly during the construction phase of the planned facilities. Their adverse impacts can be related to waste generation, noise and air pollution, as well as surface and ground water, which is associated with health risks for people, both those living in nearby residential buildings and construction personnel.

319. A summary of potential environmental and social risks and impacts during the implementation of the sub-projects that will potentially be financed under the project, along with the recommended mitigation measures, is presented in Table 16 below. The proposed measures can be used to develop site specific ESMP for selected sub-projects. In case of risks and impacts are similar, an ESMP covering several areas can be prepared, with the list of site-specific issues as an annex.

11.1 Potential environmental impacts and risks

320. The project will generate a series of environmental impacts and risks:

321. **Waste generation** will take place during the construction phase and during civil works and the dismantling of the premises and individual building elements. Storage of such waste in areas close to populated areas and untimely or inappropriate disposal can affect air quality, dust generation and affect neighbouring communities. In addition to this waste, used welding rods, packaging materials and wood will also be generated. Generally, most of the waste that will be generated at this stage relates to recycled waste and its timely and correct disposal will ensure minimal environmental impact. Construction waste as well as other waste (paper, glass, plastic, etc.) should be classified into separate containers. Waste disposal sites should be carefully selected at the construction site, and waste classification and recycling rules should be prepared in environmental management plans.

322. **Air pollution** is mainly expected to be caused by dust and construction equipment emissions. Dust generation will occur during the majority of construction/rehabilitation activities related to excavation, traffic, renovation of buildings, etc. In particular, the risk of dust pollution will increase in windy weather. The magnitude of the impact will increase when construction/rehabilitation works are carried out in the vicinity of a populated area. Given the nature of most of the works, this impact is expected to be short-term, low-risk and can be mitigated by implementing the measures recommended in Table 4.1. However, additional measures (most often watering, installation of a dust screen) may be required for subprojects involving the dismantling of existing buildings. Particular care should be taken when coming into contact with toxic asbestos dust, which may occur when removing thermal insulation or roofs containing asbestos gaskets. Personnel should wear protective masks. Adverse impacts can be prevented by applying best construction practices and appropriate mitigation measures.

323. **Noise pollution** can occur mainly during the operation of the equipment and the movement of trucks. Noise levels are not expected to exceed the established limits during project activities. Noise pollution can be mitigated by using recommended measures. Given the specific nature of the project, vibration is not expected to affect human health and structural integrity as there will be no significant vibration generation activities. Sanitary Regulations and Norms No. 0267-09 are used in Uzbekistan to ensure acceptable noise levels for residential areas. These rules and regulations establish permissible noise parameters for residential and public buildings and residential development of inhabited areas created by external and internal sources and the noise level should not exceed 55 dB(A) during the day and 45 dB(A) at night.

324. In order to reduce the negative impact of noise at the workplace, employees should use personal protective equipment - anti-audio devices that meet the requirements of GOST 15762-70, if it does not contradict the requirements of safe work execution. Given the great technical difficulties in reducing noise levels during production processes, it is necessary to address the problems associated not with noise levels that cause irritation and fatigue, but with acceptable levels that exclude the possibility of disease in workers. The

project must also comply with the sanitary regulations and rules 0120-01 to ensure an acceptable level of noise in the workplace.

325. **Surface water pollution.** Earthworks, oil storage, storage of hazardous materials will be sources of pollution of river water if the watercourse is nearby. Leakage of oil, hazardous materials, debris, and household waste can lead to chemical contamination. All fuel and chemical storage facilities (if any) should be located on a sealed basis inside the bund and protected by a fence. The storage area should be located away from any watercourse or wetland. The base and bund walls must be impermeable and have sufficient capacity to hold 110% of the tank volume. Do not dispose of lubricating oil and other potentially hazardous liquids in the ground or in water bodies.

326. In the event of an accidental spill, immediate cleaning will be carried out. All cleaning materials must be stored in a safe place on the site where hazardous waste can be disposed of. The surface water treatment plan should be carefully planned during the feasibility study to meet the discharge water quality standard. A sedimentation basin, neutralization tank, and standby tank should be prepared for inundation. The plan is included in site-specific environmental management plans.

327. **Soil contamination.** Leakage of fuel, lubricants, debris and pit latrines can cause soil contamination. A possible source of soil contamination should not be located near a natural source. The surface runoff from the construction site should be removed. All surface tanks with fuel and lubricants will be equipped above the ground and the integrity of their walls will be monitored at all times. Rules for registration, treatment and storage of hazardous materials, a soil pollution prevention plan and a fire safety plan shall be prepared in environmental management plans.

328. **Pollution with asbestos dust** - asbestos dust generating during demolishing of old roofs from rehabilitated/re-innovating buildings may cause a serious risk for health of people living in houses next or close to construction sites.

329. For such cases prior conduction construction works, contractor will have to develop a special Asbestos Management Plan in template provided in Annex 5. The Asbestos-Containing Materials Management Plan (ACMMP) describes and evaluates the risk of contractors (and others) encountering asbestos-containing material (ACM) at the Project construction sites during the implementation stage of the project; and it provides a procedure for dealing quickly and safely with any ACM that may be found. The WB OP 4.01 Environmental Assessment requires that WB-funded projects apply pollution prevention and control technologies and health and safety measures that are consistent with international good practice, as reflected in international standards such as the IFC/World Bank *Environmental, Health and Safety General Guidelines* (2007). If national legislation differs from these standards, the borrower is required to achieve whichever is more stringent. There is national procedure Sanitarian Norms and Rules (SNR) of RUz # 0300-11 dated from 2011 "Organization of collection, inventory, classification, disposal, storage and recycling of industrial waste in the conditions of Uzbekistan" covering disposal of ACM[39] in Uzbekistan. However, the procedure does provide clear description of handling ACM, therefore, the ACMMP follows the World Bank Guidelines.

330. The main principles of the ACMMP is (i) prompt and effective action to contain and deal appropriately with the ACM (including safe management and disposal); and (ii) maintaining the safety of site personnel and the general public at all times. The ACMMP is designed for use by Contractor, RPCU and the Project Implementation Unit (PIU) to manage the ACM risk over the project as a whole, and by contractors to deal efficiently with any ACM they or their workers encounter. The procedural element of the ACMMP is therefore designed to provide straightforward instructions that can be easily and quickly understood without the need for specialist knowledge and without referring to other sources.

[39] Uzbek Sanitary Norms SanPin 0233-07 "National standards "Sanitarian Norms and Rules on Work Hygiene and Environment Protection during production and usage of ACM" was one of a number of pieces of legislation deregulated in the 1980's. Notwithstanding their lack of legal status, as the most recently-available local standard, the regulations were referred to in preparing the ACMMP and the protocol for handling and disposal of ACM (see Section 3) incorporates soil covering requirements from the SanPin.

11.2 Health and safety of workers and community.

331. **For workers** - Safety and health non-compliance may create a risk for construction workers. The Contractors will have to follow Occupation Safety and Health rules, which include among others strictly implementation established norms and procedure H&S which depends on type on conducting works, usage of PPE, training activities and monitoring. In addition, all workers need to be introduced to working procedure with hazardous materials (such as asbestos materials, PCBs etc.). Contractors have to provide workers with appropriate living conditions: safe water supply, washing conditions, rooms for rest and etc.

332. **For community** - Inadequate lighting and fencing of construction sites inside of settlement areas can be dangerous for pedestrians and vehicles especially during the night time. Increasing of traffic due to trucks and vehicles movements to construction sites, temporary closing of roads during pipe lying inside of settlements may cause inconvenience for local population as well. In addition, pipe lying will cause temporary blockage of household access. Untimely and inefficient disposal of solid waste and improper sanitary conditions generated by the construction workers at construction sites and labor camps may cause pollution of the surrounding environment and affect the health of local people. Moreover, a movement of heavy tracks may destroy or deteriorate conditions of roads inside settlements.

333. **Loss of vegetation** - as the programme does not include funding for sub-projects requiring land acquisition and resettlement, i.e. all design works will be carried out within existing facilities, no impact on flora is expected. However, for some of these facilities there may be an option that requires the dismantling of part or all of the existing building or structure, which would significantly increase the generation of waste, dust and noise.

334. For sub-projects related to the upgrading of existing facilities, such as the purchase of new equipment or the expansion of production through increased capacity, the main environmental impact is expected during the operational phase of the facilities, in particular in the form of increased waste and wastewater generation. In these cases no construction/rehabilitation works are foreseen. However, in the case of modernisation of production by replacing existing old equipment, it is likely that emissions and waste generation will be reduced through the use of modern equipment.

335. **Chance finds** – some of the project cities are located in places where presence a chance of finding archeological heritage. It may happen during earth works, especially during soil excavation for tranches under water supply and sewage network construction/rehabilitation sub-projects.

336. **Socio-economic impacts and resettlement issues** – sub-projects works may lead to losses of standing crops, temporary blockage of access to small shops, houses also may lead to losing population income. In additional, improper housekeeping practice, untimely construction and domestic wastes disposal will negatively impact on socio-economic environment. Implementation of the best practice and close work with local population will mitigate these impacts.

337. The summary of the potential environmental and social risks and impacts during the implementation of the sub-projects that will potentially be included in the programme, along with the overall mitigation measures, is presented in Table 16 below. As this project funding will include only those sub-projects that do not require land acquisition or physical relocation, all sub-project activities will be carried out within the existing area.

Table 16. Potential Environmental impacts of the project and proposed mitigation measures

Assumed types of subprojects	*Expected environmental and social risks and impacts*	*Scale of impact (local / regional, temporary / permanent)*	*Prevention/mitigation measures*
1. Modernization of street lighting: • Repair of existing poles;	• Waste generation (used light bulbs, used wires, etc.) • Air emissions (dust);	Local. Temporary with reversible effects	• Collection and sorting of waste with further disposal (landfill or recycling facilities); (SanPiN RUz

• Install new supports where necessary; • Replacing the light bulbs; • Installation of street lamps	• Noise during the period of work; • Restrictions on access to public places.		№ 0329-161, KMD № 266 from 21.09.2011g. [2]) • Dust suppression - watering the construction site; • Limitation of working hours by day; (SanPiN RUz № 0267-093; SanPiN № 0120-014) • Providing the builders with safety instructions (SHN 3.06.03 - 08; KMC 3.06.04-97)[5]; • Protect the work area for safety reasons; • Inform the population of the time constraints related to repair and construction works.
2. Improvement of public places: • Parks and squares; • Playgrounds; • Other public places;	• Impact on land cover; • Waste generation (soil, construction waste, etc.); • Air emissions (dust); • Noise during the period of work; • Cutting of existing trees and shrubs, their replacement with climatically unfounded types of seedlings.	Local - temporary with reversible effects	• Preparatory nature protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation (SSC 2.05.02 - 07; KMK 2.05.03-976, PKM RUz №506 dated 22.11.1997); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011. [2]) • Dust suppression - watering of roads, territories of an accomplishment; • Limitation of work time by day (SanPiN RUz № 0267-093; SanPiN № 0120-014); • Protect the work area for safety reasons; • Greenery should be produced with climate-friendly and broad-leaved seedlings and timely irrigation system (PKM RUz №506 dated 22.11.1997).
3. Rehabilitation of roads, footpaths and sidewalks: • Expansion of existing roads; • The road surface; • Construction of bicycle lanes; • Repair of footpaths	• Waste generation (construction waste); • Air emissions (dust, construction equipment emissions); • Cutting down trees and shrubs; • Noise during the period of work; • Restrictions on the movement of vehicles and pedestrians.	Local-temporal with reversible effects	• Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Preparatory nature protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation (SSC 2.05.02 - 07; KMK 2.05.03-976, PKM RUz №506 dated 22.11.1997); • Dust suppression - watering the roads; • The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093; SanPiN № 0120-014) • Landscaping of the area located along the roads with climate-substantiated species of

			broad-leaved vegetation (PKM RUz No. 506 of 22.11.1997); • Fencing of the area of work.
4. Bridge rehabilitation/construction: • Bridge rehabilitation; • Construction of small bridges (up to 10 meters); • Construction of pedestrian bridges	• Seizure of land for the construction of new bridges; • Violation of the soil and vegetation cover of the coastal zone; • Surface water pollution; • Waste generation (soil, construction waste, etc.); • Air emissions (emissions from construction machinery); • Noise during construction work; • Restriction of access to the crossing.	Local-temporal with reversible effects	• Preparatory nature protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation of the coastal zone (SSC 2.05.02 - 07; KMK 2.05.03-976); • Implementation of preparatory measures for redirecting water flow at the work site to avoid surface water pollution (RH 84.3.22:20068); • Organisation of surface drainage with waste water collection devices and oil traps (RH 84.3.22:20068); • Organization of surface water quality control (RH84.3.22:20068, SanPiN No. 0088-999); • Use of anti-corrosion materials; • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011 [2]); • Informing the population about time constraints and redirecting them to other bridge sections. • The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093; SanPiN № 0120-014)
5. Construction/repair of road drainage systems and devices: • Construction of drainage systems; • Expansion of existing surface drainage systems; • Repair of existing drainage systems.	• Withdrawal of land for construction/expansion of drainage systems; • Disruption of soil and vegetation cover during construction and repair works; • Pollution of surface and ground waters; • Waste generation (soil, construction waste, etc.) • Air emissions (emissions from construction machinery); • Noise during the period of work.	Local-temporal	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SPC 2.05.02 - 07; KMK 2.05.03-976); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011 [2]); • Dust suppression in construction works; • Fencing of the area of work. (KM KM 2.01.08-96; LINE 2.07.01-03; KM 2.10.09-97) • Environmental protection measures to reduce pollutant emissions into the atmosphere through the use of construction equipment equipped with cleaning and noise protection devices;

			• The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093; SanPiN № 0120-014) • Organization of surface runoff and drainage water diversion for the period of works (RD 118.0027719.5-9110). • organization of drainage and surface water quality control (RD 118.0027719.5-9110); • Use of anti-corrosion materials;
6. Anti-flooding measures: • Drilling of new drainage wells/restoration of existing wells to combat flooding; • Installation of water pumps for flood control.	• Withdrawal of land for construction/expansion of drainage systems; • Disruption of soil and vegetation cover during construction and repair works; • Pollution of surface and ground waters; • Waste generation (soil, construction waste, etc.) Air emissions from drilling rigs and pumps.	Local-temporal	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation at the sites of planned works (PKM RUz №506 dated 22.11.1996); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Dust suppression in construction works; • Fencing of the area of work. • The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093; SanPiN № 0120-014) • Organization of surface runoff and drainage water diversion for the period of works (RD 118.0027719.5-9110). • Application of equipment equipped with cleaning equipment that reduces emissions of pollutants into the atmosphere.
7. Water supply: • rehabilitation of water supply networks; • restoration of reservoirs; • Upper water tanks; • rehabilitation of pumping stations	• Land acquisition for construction/expansion of water supply systems; • Disruption of soil and vegetation cover during construction and repair works; • Pollution of surface and ground waters; • Waste generation (soil, construction waste, etc.) • Air emissions from drilling and construction equipment; • Noise during construction.	Local-temporal with reversible effects	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976; • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Dust suppression during construction and drilling works; • Fencing of the area of work. • The noise level in the surrounding residential areas should not exceed 55 dB in

			daytime and 45 dB at night. (SanPiN RUz № 0267-093, SanPiN № 0120-014) • Application of equipment equipped with cleaning equipment that reduces emissions of pollutants into the atmosphere.
8. Sanitation measures: • Rehabilitating the sewerage network; • Rehabilitation of sewage pumping stations; • Construction/rehabilitation of septic tanks	• Seizure of land for the restoration of the sewerage network; • Disruption of soil and vegetation cover during construction and repair works; • Waste generation (soil, construction waste, etc.) • Atmospheric emissions from construction machinery.	Local-temporal with reversible effects	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Dust suppression in construction works; • Fencing of the area of work. • The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093; SanPiN № 0120-014)
9. Solid waste management systems: • Construction/improvement of a small scale waste collection point; • Construction of waste collection points	• Removal of land for construction/reconstruction of solid waste management systems; • Soil and vegetation disturbance during construction works; • Waste generation (soil, construction waste, etc.) • Air emissions (emissions from construction machinery); • Noise during construction work; • Impacts on groundwater when setting up waste collection points; • Soil and vegetation disturbance during construction works.	Local-temporal with reversible effects	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011 [2]); • Dust suppression in construction works; • Fencing of the area of work; • Waterproofing device for waste collection points (SanPiN RUz №0329-161); • The noise level in the surrounding residential areas should not exceed 55 dB during the day and 45 dB at night. (SanPiN RUz № 0267-093 SanPiN № 0120-014)
10. Modernization of social infrastructure (kindergarten, schools, medical centers): • Repair/replacement of exterior doors and windows, optimization of windows; • Insulation of walls, basements and attics; • Small-scale reconstruction works inside social facilities	• Waste generation (construction waste); • Air emissions (inorganic dust during reconstruction of buildings, asbestos dust during replacement of asbestos-containing roofs and other structures, paint aerosol during repair works);	Local-temporal with reversible effects	• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation at the sites of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976, PKM RUz №506 dated 22.11.1997); • Collection and sorting of waste with further disposal (landfill or on-

(e.g. repainting of walls, tiling, installation of cable canals, new water pipes); • Basic restoration works, including removal/reconstruction of walls (especially if they contain asbestos insulation or sheets); • Replacement of asbestos roofs	• Soil and vegetation disturbance during construction works; • Noise during construction and repair work.		site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Dust suppression in construction works; • The noise level on the territory of nearby residential premises should not exceed 55 dB during the day and 45 dB at night (SanPiN RUz № 0267-093; SanPiN № 0120-014).
11. Energy supply activities: Installation of underground electric cables (for trunk lines) • Air wiring • Installation of new electrical distribution transformers; • Installation of short sections of new distribution lines or replacement of obsolete supports; • Installation of solar panels	• Seizure of land for the installation of underground electrical cables; • Land cover disturbance during underground installation works; • Waste generation (soil, construction waste, etc.) • Noise during support replacement; • Impact on groundwater during underground works.	Local-temporal with reversible effects	• Collection and sorting of waste with subsequent disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976); • The noise level on the territory of nearby residential premises should not exceed 55 dB during the day and 45 dB at night (SanPiN RUz № 0267-093; SanPiN № 0120-014); • Use of anti-corrosion materials.
12. Purchase of municipal equipment, vehicles, etc.	Waste generation during unpacking	Local-temporal with reversible effects	• Collection and sorting of waste with subsequent disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]).
13. Heat supply: • Reconstruction, modernization of heating systems (replacement or modernization of heat sources, such as: boiler or external sources); • Reconstruction and insulation of buildings; • Replacement of old heating pipes	• Waste generation during replacement of obsolete equipment, reconstruction of buildings (scrap metal, construction waste).	Local-temporal with reversible effects	• Collection and sorting of waste with subsequent disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]).
14. Small construction of public facilities: • School or kindergarten and related facilities - canteen, sports centers, etc. • Warehousing facilities • Information Centres • Other necessary small social facilities	• Waste generation (construction waste); • Air emissions (inorganic dust during reconstruction of buildings, asbestos dust during replacement of asbestos-containing roofs and other structures, paint aerosol during repair works); • Soil and vegetation disturbance during construction works; • Noise during construction work.		• Preparatory environmental protection measures aimed at preservation of soil and vegetation layer and wood and shrub vegetation in the areas of planned works (SSC 2.05.02 - 07; KMK 2.05.03-976); • Collection and sorting of waste with further disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g. [2]); • Dust suppression in construction works;

			• The noise level on the territory of nearby residential premises should not exceed 55 dB during the day and 45 dB at night (SanPiN RUz № 0267-093; SanPiN № 0120-014).
15. Installation of antennas for WIFI services	Waste generation	Local-temporal with reversible effects	• Collection and sorting of waste with subsequent disposal (landfill or on-site disposal) (SanPiN RUz № 0329-161, PKM № 266 from 21.09.2011g2).

[1] SanPiN RUz #0329-16. Sanitary norms and rules of maintenance and improvement of the populated areas in the Republic of Uzbekistan.
[2] - Decision of the Cabinet of Ministers of the Republic of Uzbekistan "On Approval of the Procedure for Collection and Disposal of Used Mercury Lamps" dated 21.09.2011 № 266
[3] - SanPin Republic of Uzbekistan № 0267-09. Permissible noise level in the living area, both inside and outside of buildings.
[4] - SanPiN RUz № 0120-01. Sanitary standards for permissible noise levels on construction sites.
[5] - SHN 3.06.03 - 08; KMC 3.06.04-97 Construction Safety Standards.
[6] - SHN 2.05.02 - 07; KMK 2.05.03-97 Construction standards and regulations for the Environmental Protection of Roads
[7] - Decree of the Cabinet of Ministers of the Republic of Uzbekistan "On Approval of Some Normative Acts on Protection of Forests of the Republic" dated 22.11.1999 № 506.
[8] - RH84.3.22:2006. Sanitary rules and norms for protection of surface waters from pollution of the Republic of Uzbekistan.
[9] - SanPin #0088-99. Sanitary requirements for the development and approval of maximum allowable discharges (MPD) of pollutants discharged into water bodies with wastewater.
[10] - PD 118.0027719.5-91. Procedure for the development and implementation of draft standards for maximum permissible discharges of pollutants into water bodies, including drainage water.

11.3 Health and safety procedures during COVID-19 pandemic

An outbreak of the coronavirus disease (COVID-19) caused by the 2019 novel coronavirus (SARS-CoV-2) has been spreading rapidly across the world since December 2019, following the diagnosis of the initial cases in Wuhan, Hubei Province, China. Since the beginning of March 2020, the number of cases outside China has increased thirteenfold and the number of affected countries has tripled. On March 11, 2020, the World Health Organization (WHO) declared a global pandemic as the coronavirus rapidly spreads across the world.

The Government of Uzbekistan has initiated a pandemic preparedness response. In this context, the President signed a US$1 billion economic relief plan to aid the economy and vulnerable population groups. The plan establishes the Anti-crisis Fund and National Anti-Crisis Commission, headed by the Prime Minister, to oversee and coordinates preparedness and response measures. The Anti-crisis Fund will finance COVID-19 prevention and control activities, social support to low-income families, and support to strategic economic areas and small businesses. The plan also introduces time-limited tax rate reductions to support individuals and enterprises. As part of the relief plan, the Government introduced salary top-ups for health care workers involved in the care of COVID-19 patients. Physicians can receive up to US$2,500 per month, nurses up to US$1,500, and ancillary staff up to US$500 per month.

The authorities have initiated measures to curb the spread of the virus in the country. Once the first case of the virus was detected in Uzbekistan, the National Anti-Crisis Commission, learning from emerging lessons from China and Korea, began instituting increasingly restrictive measures to prevent the spread of the virus.

- As of March 24, 2020, all points of entry were closed; all international passenger flights and train operations were suspended; schools and universities were closed; in Tashkent and regional centers, all types of large gatherings were prohibited until further notice and home-based work was mandated; all public transport was suspended; and entry and exit restrictions were put in place.

- As of March 27, 2020, a stay-at-home advisory was issued; mask-wearing was mandated in public places, with fines of US$120 for violators; gatherings were restricted to three people; the movement of private vehicles was restricted to the region of registration; and over 65,000 people were quarantined.
- As of March 30, 2020, the restrictions were further tightened to suspend the movement of all types of transport in Tashkent and regional centers; the stay-at-home advisory was upgraded to an order requiring residents to stay indoors except for certain essential activities such as buying food and seeking medical treatment; and the export of personal protective equipment (PPE) was suspended nationwide.

From August 15, 2020 restrictions were lifted allowing movement of vehicles, internal and external air and railway transportation. Social distancing and mask wearing regime is still mandatory.
In Uzbekistan as of October 21, 2020, total number of infected is 64010 people, recovered - 61068 and 534 people died.

As COVID 19 infection might affect of project implementation in the country, while preparing and conducting project civil works, it is necessary to undertake actions to ensure that the project (i) has adequate precautions in place to prevent or minimize an outbreak of COVID-19, and (ii) identify and develop a plan what to do in the event of an outbreak. These would include the following:

(i) undertaking measures to minimize the chances and contain the spread of the virus as a result of the movement of workers; (ii) ensure their sites are prepared for an outbreak; (iii) develop and practice contingency plans so that personnel know what to do if an outbreak occurs and how treatment will be provided; (iv) appointing COVID-19 issues focal point; (v) requiring the Contractor to communicate with the focal point or project health and safety specialist and medical staff (and where appropriate the local healthcare providers), and coordinating designing and implementing the contingency plans; and (vi) encouraging to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

With regards to all necessary COVID 19 related activities, the WB has issued a Guidance Note on COVID 19 considerations in construction/civil works contracts (see *Annex 15*). The document focuses on construction/civil works, where there are large numbers of workers or workers camps. The document is intended to advise Bank staff on ways to support Borrowers in addressing key issues associated with construction and civil works and COVID-19 and recommends assessing the current situation of the project, understanding the obligations of contractors under existing contracts (Section 3), requiring contractors to put in place appropriate organizational structures (Section 4) and developing plans and procedures to address different aspects of COVID-19 (Section 5). Among most important actions to be undertaken by Contractors are the following: (a) Training staff on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms; (b) Placing posters and signs around the working site, with images and text in local languages; (c) Promoting good respiratory hygiene in the workplace: displaying posters promoting respiratory hygiene and combining this with other communication measures such as offering guidance from occupational health and safety officers, briefing at meetings and information on the intranet etc.; ensuring that face masks are available at your workplaces, for those who develop a runny nose or cough at work, along with closed bins for hygienically disposing of them; and, (d) Ensuring handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at office premises. Where handwashing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.

Respectively, the PIU need to ensure the Contractors will follow this Note and prepare a Contingency plan to be reviewed and approved by PBs. Furthermore, the Contractor must prepare brief reports with regards to COVID situation, using attached template in *Annex 16*. The ESMF requires outbreaks of diseases to be reported. It is important that the Bank team is informed of an outbreak on a site to better coordinating the necessary responses with project management protocols. Such reporting should be done following the guidance in ESIRT for a 'Serious' incident, to ensure that the Bank team is informed and that the event is managed accordingly at the project level. An investigation into an outbreak of COVID-19 does not need to be undertaken by the PB or Contractor, but the PIU should keep teams informed of any concerns or problems associated with

providing care to infected workers on project sites, particularly if infection rate is approaching 50% of the workforce.

11.4 Potential social impacts and mitigation

338. The project may involve permanent and temporary land acquisition affecting to agricultural and residential lands. The reconstruction/rehabilation of water pumping station, water reservoirs, waste collection points, solid waste processing facilities may require the permanent land acquisition. The temporary land acquisition could be needed for reconstruction and extension of water pipelines, widening of roads, drainage extension. Land for that purposes can be taken from agricultural as well as residential lands, affecting to farmers, HH or businesses (path, title, and non-title holders). There will be no need for permanent land acquisition within the setlements, but may involve temporary land acquisition due to the construction/reconstruction of water supply pipelines, and other social infrastructure.

339. The project is expected to have several subprojects which will become known only during the implementation phase. While the broad category of activities/ impacts is foreseen, exact magnitudes can become known only after detailed designing of the subprojects. As indicated above, the socio-economic analysis in the qishloq development plans is sufficient for ARAPs; a more detailed socio-economic baseline may be required for more complex RAPs. Such analyses will help determine the magnitude of displacement and prospective losses, identify vulnerable groups for targeting and ascertain the costs of resettlement. This Environmental and Social Management Framework (ESMF) has been developed for this RIDP to serve as 'guidance', to provide details on procedures, criteria, and responsibilities for subproject screening, preparing, implementing and monitoring of subproject specific ESIAs. The framework will be applied as and when a subproject surface and an Environmental and Social Management Plans (ESMP) is prepared. The resettlement impacts are categorized as follows:

A. ***Significant (Category 1)*** – If as a result of the subproject, about 200 or more people may experience major impacts, that is, being physically displaced from housing, or losing 10% or more of their productive (income-generating) assets. Full RAP is required to be prepared.
B. ***Not significant (Category 2)*** – If as a result of the subproject, fewer than 200 people will be physically displaced from housing or lose less than 10% of their productive (income- generating) assets. Abbreviated RAP is prepared;
C. ***No resettlement effect (Category 3)*** – If the subproject does not require temporary or permanent land acquisition, and there are no impacts involving the loss of land, structures, crops and trees, businesses or income. No resettlement plan is required. This category also includes temporary but not significant impacts which will have to be mitigated as a part of construction management inconsultation with the PAPs by the Contractor. Due Diligence Report is required.

340. Voluntary land donation requirements are set out in paragraph 302 above.

341. Local authorities and Land Resources and State Cadaster Department LRSCD concerned with land ownership and management will also hold the consultant. PAPs covered in a) and b) are provided compensation for the land they lose, and other assistance ensuring that they are:

I. Informed about their options and rights pertaining to resettlement.
II. Consulted on, or offered choices among, and provided with technically and economically feasible resettlement.
III. Provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project.

342. While PAPs will not be permanently displaced, per the exclusion list of the project, they could lose some land or structures. Land for land compensation will be applied to PAPs who might lose their land. All PAPs irrespective of their status or whether they have formal titles, legal rights or not, squatters or otherwise encroaching illegally on land, are eligible for some assistance if they occupied the land before the entitlement cut-off date. Persons who encroach on the area after the socio-economic study (census and valuation) are not eligible for compensation or any form of resettlement assistance. There will, therefore, be a package of

compensation and other resettlement measures to assist each category of eligible PAPs to achieve the objectives of the policy. Eligibility criteria will also be determined by:

i. Loss of property
ii. Loss of wages
iii. Cut-off date.

343. All involuntary land acquisitions will be compensated at replacement cost as per the OP 4.12 and the PAPs will be assisted to re-establish their living standards (affected shelter and incomes) to a level to or better than their living condition prior to the project. In according to Presidential Decree № 5495 (01.08.2018), a replacement cost, including compensation on market value and losses shall be paid to PAPs. So, the valuation of affected structures can be valued by independent valuation companies without deducting any depreciation. Land-based compensation is provided by local Hokimiyats on the basis of land acquisition acts at respective cities.

344. In accordance with the principles of the RPF of RIDP, all displaced HH and persons will be entitled to a combination of compensation packages and resettlement assistance depending on the nature of ownership rights on lost assets and scope of the impacts including socio-economic vulnerability of the displaced persons and measures to support livelihood restoration if livelihood impacts are envisaged. The displaced persons will be entitled to the following five types of compensation and assistance packages:

(i) Compensation for the loss of land, crops/ trees at their replacement cost;
(ii) Compensation for structures (residential/ commercial) and other immovable assets at their replacement cost;
(iii) Assistance in lieu of the loss of business/ wage income and income restoration assistance;
(iv) Assistance for shifting and provision of the relocation site (if required), and,
(v) Rebuilding and/ or restoration of community resources/facilities.

345. PAPs meeting the cut-off date requirements will be entitled to a combination of compensation measures and resettlement assistance, depending on the nature of ownership rights of lost assets and scope of the impact, including the social and economic vulnerability of the displaced persons. Unforeseen impacts will be mitigated in accordance with the principles of this RPF.

346. An Entitlement Matrix summarizes the types of losses and the corresponding nature and scope of entitlements, and is in compliance with National Laws and World Bank OP 4.12. The entitlement matrix presents the entitlements corresponding to the tenure of the DPs in the following order:

1) Loss of Land (agricultural, residential, commercial or otherwise)
2) Loss of residential structure (inhabited structures)
3) Loss of Commercial structures
4) Impact to Tenants (Residential/ Commercial / Agricultural)
5) Impact to trees, standing crops, other properties, perennial and non-perennial crops
6) Loss of Land/ house/shop
7) Impact to Squatters
8) Impact to Encroachers
9) Loss of employment in non-agricultural activities or daily agricultural wages or other wage workers
10) The impact on Vulnerable HH
11) Unforeseen impacts.

12. ENVIRONMENTAL AND SOCIAL ASSESSMENT RULES AND PROCEDURES

12.1 Main stages of environmental and social assessment

347. Taking into account the EA requirements specified in the National Legislation, as well as the WB OPs and Environmental, Health, and Safety (EHS) General Guidelines the ESA process for selected sub-projects would involve three or four steps: (a) based on the preliminary project description prepare the Draft Statement of the Environmental Impacts (DSEI) which should be presented to the SEE for its review and approval; (b) based on the detailed project design prepare the ESMP or ESMP checklist for the project implementation phase (the description of the ESMP is presented below); (c) during projects implementation and before its commissioning – when needed (this is specified in the decision of the SEE on the Statement draft of environmental impacts), - prepare the Statement of the Environmental Impacts; and, (iv) before commissioning the project (only for category 1-3 projects (Uzbekistan)) prepare Declaration of Environmental Effects (DEE). Preparation of DEE is not mandatory for the projects belonged to all category IV project in Uzbekistan and for many Category III projects too – this is decided by the SEE at the DSEI stage. For more details in this regards see Annex 6.

348. **First stage** - *Draft Statement of Environmental Impacts (DSEI)*. This document should be prepared by the SCS and/or by a consultant hired on its behalf. The DCM # No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism " specifies the content of DSEI. The content of document for project category IV projects is different from content of DSEI developing for category 1-3 projects. As indicated in Table 2, 1st category is similar to WB's Category A and such sub-projects are unlikely to occur in the project. 2nd and 3th categories are equivalent to category B (WB). DSEI's content for 4th category projects is more simplified than for projects category 1-3. The DSEI should summarize the environmental and social risks and impacts of the proposed sub-projects and include specific mitigation measures, taking into account national law and regulations, and the requirements of the World Bank OPs, including its Environmental Health and Safety Guidelines.

349. For the projects belonged to Category 4 (Uzbek) which is equvivalent to WB category C the following information have to be presented in EA report[40]: (a) location plan with indication of land usage of area; and (b) environmental and social management measures.

350. The DSEI has to be reviewed and approved by the national level of Glavgosekoexpertisa (for sub-projects in category 1-2 (Uzbek) or World Bank Category A or B, or the provincial level of Gosekoexpertisa (for the projects belong to category 3-4 (National) or World Bank Category C under State Committee of Ecology and Environmental protection (national and provincial level accordingly). The State Ecological Expertise confirms the project Category and specifies the main issues on what the project beneficiary has to be focused during the next steps of the EA process and during project implementation (construction or rehabilitation activities).

351. **Second stage** – development of ESMP (for sub-projects in World Bank Category B) or ESMP checklist (for sub-projects in World Bank Category B (Low-risk) and C) needs to be done in accordance with the requirements of the WB OP 4.01. These requirements for the ESMPs and its structure are provided below and in the current ESMF document.

352. **Third stage** – development of SEI. This stage has to be implemented if it is required in Environmental Conclusion issued by DSEI. Usually such documents are developed to fulfill information provided into DSEI or provide investigation on indicated parameters. SEI needs to be developed before construction activities launching.

353. **Fourth stage** – development of Declaration on Environmental Effects (DEE) (for subprojects belonged to categories 1-3 (Uzbek) or Category B (WB)) will need to be developed prior the selected sub-

[40] Decree of Cabinet Ministries (DCM) on "Regulation on Environmental Expertise" (2018)

projects will start operation. For the sub-projects which are not included into the list with activities which are object of national EA.

12.2 ESA process: step-by-step

354. Conducting subprojects Environmental and Social Assessment requires the following steps:

355. **Step 1: Screening.** The Ministry of Economic development and poverty reduction PIU and Regional WGs will carry out screening of sub-projects in categories A, B or C. It is expected that all selected sub-projects will be Categories B and C, but in rare potential cases if it is decided that the sub-project has more risks than a regular B project, the project will not be eligible for project financing. In general, a project will be classified as a Category A project if it: creates an impact affecting an ecologically sensitive area, especially if the project is located less than 1000 meters from any designated wildlife sanctuary, national park, other sanctuary, or area of international importance or cultural heritage and archaeological sites identified by UNESCO and/or the Government of Republic of Uzbekistan; and exists and already passes through any ecologically, culturally and archaeologically sensitive areas.

356. Sub-projects that do not relate to any of these conditions defined above are classified as B. The PIU Environmental Safeguards Specialist will also verify the suitability of the subproject for the IFC Exclusion List (Annex 7) before deciding to include the subproject in the program. The project category must be determined in accordance with both RCM No. 541 (2020) and of the World Bank OP 4.01 as explained above. For the project category, it is determined which documents should be prepared in accordance with the environmental requirements of the sub-project. If a subproject is classified as Category A (Category A (IS) equivalent to Category I (Uzbekistan), it must be excluded from the Project. A detailed definition of WB categorization, the main stages of environmental assessment, subproject screening are outlined in Chapter 3. Only projects with categories II-IV (Uzbekistan) or categories B and C (WB) can be included in the project. Once the environmental assessment process confirms that a subproject proposal can be included in the Program, the PIU Environmental Safeguards Specialist will identify the necessary tools to conduct the ESA.

357. **Step 2: Subprojects Environmental and Social Impact Assessment.** For subprojects that are identified under Category II-III (or Category B according to the World Bank classification), a national EIS and/or SEI environmental assessment document will be prepared and is likely to contain information on mitigation measures, but no details on their costs and the institutions designated to implement them or a detailed monitoring plan. For such projects, in order to comply with World Bank operational policies, SCS and/or by a consultantwill prepare an ESMP or ESMP checklist.[41]

358. **Environmental and Social Assessment requirements and procedures for reviewing and approval of Qishloks' development plans.** As described above, the second Project Component would help with Mahalla Citizens Assemblies (MCAs) project committees to produce qishloq development plans, that identify subprojects to be financed through the Project. Although such activities are not associated with any direct physical environmental and social risks, indirectly they can cause some environmental and social impacts (air and water pollution, waste generation, labor and health risks, etc.), which might occur during their implementation and operational phases. Considering these issues, the Regional SSs and the PIU Environmental Safeguards Specialist will review the TORs for providing assistance in this area that would be prepared for selecting a Facilitating partner that will get such assignment, stipulating environmental requirements while designing those development plans (in terms of location of proposed activities that would avoid environmentally and socially sensitive areas (protected areas, parks or green areas; important habitats for rare and endangered species; wetlands; areas of cultural physical resources; etc.), as well as in terms of identifying sound environmentally and/or socially positive alternatives for the proposed subprojects and their implementation, where required (e.g., energy efficiency and energy conservation, recycling and reducing waste generation, new alternative technologies for climate adaptation; applying best construction practices; etc.). Additionally, the designed development plans should specify along with the identified subprojects main

[41] Sub-projects with more significant environmental and social impacts may require the preparation of an ESIA. The ESIA is usually prepared by an independent firm which is licensed As a rule, project designers, subcontract a specialized firm licensed to conduct an ESIA in accordance with the legislation of the Republic of Uzbekistan, and, as a rule, the final reports are passed through the Glavgosekoekspertiza. As specified above, the ESIA process should involve not only proposed subprojects under the Component I but also under Component II. (See below relevant requirements and procedures in this regard.)

requirements for their ESMPs. All these requirements should be specifying in both – main objectives for the assignment as well as in the criteria for selection of relevant companies for this assignment. Furthermore, the draft qishloks' development plans should be subject to a preliminary review and environmental screening to be done by the WG SSs, as well as by the PIU SSs and only after that these documents should be disclosed and publicly consulted.

359. **Step 3: Public Consultation.** Once the ESMP or ESMP Checklist is prepared; these documents are subject to public consultation. During the public consultation process, ESMP documents will be distributed to all interested parties and local population, by posting them on the web sites and by sub itting them to the local councils. Minutes of public meetings will be kept and will be included in the final ESMP/ESMP checklists. During the consultation session, the ESA team in cooperation with the PIU ESS and Regional will present the ESMPs/ESMP Checklists (project, its location and implementation schedule, overview of the ESA process, and any conclusions on impacts, proposed mitigation measures and benefits). These data should be defined as preliminary or intermediate, indicating that input from participants can still be applied to project planning. Participants will be invited directly (not by order) to submit comments and corrections to what is presented. Adequate and convenient contact information will be provided for use by participants.

360. The public consultation on the ESMP/ESMP Checklist of a particular sub-project will include an announcement of PIU meetings on the website at least two weeks before the session, with a brief description of the project, location and specific contact details (including telephone numbers). In addition, the ESA team, in collaboration with the PIU, will make an announcement in the local, regional Hokimiyats about holding a public consultation by means of a written short booklet together with an invitation to participate in the meeting. Documentation for the consultation should be submitted to the MEI as part of the sub-project file by the PIU ESS. Versions in Uzbek and/or the local ESMP language and records of the public consultation should be posted in a public place close to the construction site, as well as on the Sub-Borrower's website. Specific ESMP sub-projects will also be available to affected groups and local NGOs in an easily accessible location and on the website of the Ministry of Economic development and poverty reduction.

361. **Step 4: WB acceptance.** The ESMPs/ESMP Checklists for the first three subprojects from each participating regions will be prior reviewed by the WB. After that such prior review will be requested by mutual agreement between the WB and project PIU. Higher risk ESMPs and ESIAs should receive a prior review by the WB. These documents can also be prepared in local languages (Russian or Uzbek).

362. **Step 5: ESA Information Disclosure.** For all approved sub-projects, the PIU/Regional will ensure that printed copies of the final ESMPs/ESMP checklists in the local language are available in a public place. The PIU will post the final documents on the website of the Ministry of Industry Economy. Before the final approval of the sub-project, the MEI will also submit to the WB the English versions of the ESMP final documents for its own records.

363. **Step 6: Integration of environmental and social requirements into project documents.** All sub-project bidding documents shall include a requirement for implementation of the ESMP/checklist, and the documents shall be attached to the bidding documents and then to the construction contracts.

364. **Step 7: ESA Monitoring.** PIU/Regional will carry out regular monitoring of sub-projects during construction and operation to ensure that ESMPs/ESMP checklists are properly implemented. If PIU/Regional notices any problems in implementation, it will inform the relevant contractor and agree with him on corrective action to be taken. The PIU will present its findings to the WB in the project progress report twice a year or more frequently, and bring issues to the attention of the WB as necessary. The WB project team will also visit the sub-project sites as part of the project supervision, as appropriate and appropriate.

12.3 Criteria for subprojects environmental screening

365. **Screening of sub-project activities and identification of EA instruments.** Prior making decision on including a sub-project in the program, PIU Environmental Safeguards expert will check on eligibility of the sub-project against IFC's Exclusion List (Annex 7). After that an environmental category of the project has to be defined in accordance with DCM on SEE and World Bank categorization. If the sub-project belongs to category A (WB) equivalent to category I (Uzbekistan), it has to be excluded from the Project. It is expected

the supported sub projects will not be related to specified above circumstances and respectively will not have significant environmental and social impacts.

366. The potential project impact depends not only from type of activities but also depends on the subproject location. Thus, as specified above in section 3 there are several locations which should be considered while deciding to qualify the project as category "A":

- ✓ in or near sensitive and valuable ecosystems — wetlands, wild lands, and habitat of endangered species
- ✓ in or near areas with archaeological and/or historical sites or existing cultural and social institutions;
- ✓ in densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities;
- ✓ in regions subject to heavy development activities or where there are conflicts in natural resource allocation; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils).

367. These conditions are not considered by the Uzbekistan regulation while projects categorization. Therefore, each sub-project needs to be checked on its location as well as WB requires. Respecticely, the project will not support any sub-projects located in the proximity of mentioned areas and with specified potential impacts.

368. Once screening process confirmed that proposing sub-projet is eligible for inclusion in the Program, PIU ESS will identify required instruments for EA. As it was mentioned above, only sub-projects category B (with moderate and low impact) which may generate some environmental and social impacts which can be addressed by applying certain mitigation measures. For the projects categorized as B (with moderate impact) a development of a site-specific ESMP will be required; more complex sub-projects, such as those with a wide range of environmental and social risks and impacts that may also span a broader area or landscape, may require the preparation of an ESIA. In the case of project that involve some impacts which are not significant and which can be mitigated by well-known mitigation or avoidance measures or by applying best housekeeping and/or construction practices (low impact), it is recommended to apply an ESMP Checklist, - for small scale construction and reconstruction activities. Table 17 provides detail information on categorization of potential project activities and proposed EA instruments.

369. As it was described in Chapter 3 there is some differences in the project categorization and required actions between WB OPs and national environmental legislation. In accordance with national legislation, EA and further actions are not required for existing objects if: (i) planning rehabilitation/repairing of some of the object's facilities be conducted without extension of the territory of facilities where construction of rehabilitation will be implemented, and (ii) during operation phase consumption of natural resources and generation of wastes, discharges and emissions will not increase. The legislation does not require a preparation of separate ESMP or any other environmental documents/plans/checklists.

370. However, WP OP 4.01 requires development of separate ESMP checklist for the activities which have low environmental impacts. Taking in account, that more strictly requirements need to be applied for this project, for thus sub-projects/activities which are not included in the list of mandatory SEE (Annex 8), but which is under activities with low impact (Category B), the development of ESMP checklist is required.

371. In the case of subprojects which do not or require only minor civil works or which generally would not have any environmental and social impacts (such as purchasing vehicles or other equipment) the subproject will be qualified as Category C. Table 17 below provides proposed project activities and suggests their environmental Category along with the ESA instrument which could be applied.

Table 17. Screening of categories for proposed types of sub-projects and suggested EA instrument

No	*Project activity*	*Proposed Category*		*Remarks*	*Proposed EA instrument*	*Requirements of national legislation*
		WB	*National*			
1	Street lighting upgrading: Repairing of existing pillars Installing new pillars where needed; Replacements of bulbs;	B with minor risk	Not included the list for EA (-)		No further actions after filling the Environmental Screening Checklist. Including Occupational Health and Safety (OHS) requirements in the contracts	-
2	Parks, playgrounds, and other public spaces improvements	B with minor risk	(-)	Involving only minor civil works	No further actions after filling the Environmental Screening Checklist	-
3	Intra city transport: Construction/rehabilitation of bus terminals and stops; Construction of car parking areas; Installing street lights and road signs	B (minor risk) B (minor risk) C	- - -		ESMP Checklist ESMP Checklist No further actions after filling the Environmental Screening Checklist. Including Occupational Health and Safety OHS) requirements in the contracts	Draft Statement on Environmental Impacts (DSEI) DSEI -
4	Roads rehabilitation, Widening of existing roads (within the ROW); Road resurfacing Construction of bicycle trial; Rehabilitation of walkways	B (minor risk) B (minor risk) C C C	- - - - -		ESMP Checklist for roads rehabilitation ESMP Checklist for roads rehabilitation Following good practice No further actions after filling the Environmental Screening Checklist No further actions after filling the Environmental Screening Checklist	- - - - -
5.	Bridge rehabilitation Construction small scale new bridges, including pedestrian ones	B (minor risk) B (minor risk)	3 (p1) -		ESMP Checklist ESMP Checklist	DSEI and SEC -
5	Drainage extension; Widening of existing drains; Rehabilitation of existing drains; Drilling of new shallow wells/rehabilitation of existing for flood control and reduction with installation of pumps	B (minor risk) B (minor risk) C C	3 (p20) 3 (p20) 3 (p20) 3 (p6)		ESMP Checklist ESMP Checklist No further actions after filling the Environmental Screening Checklist and following good civil works practices No further actions after filling the Environmental Screening Checklist and following good practices	DSEI DSEI DSEI DSEI
6	Extension and rehabilitation of water supply networks	B	3 (p7)	In the case of construction of new main	Depending on environmental sensitivity of location and scale of project -	DSEI

No	Project activity	Proposed Category		Remarks	Proposed EA instrument	Requirements of national legislation
		WB	National			
	Drilling of new deep-water wells	B (minor risk)	3 (p6)	water supply pipes	ESMP or an ESMP Checklist	DSEI
	Overhead water tanks	B (minor risk)	-		ESMP Checklist, no further actions after filling the Environmental Screening Checklist, following good civil works practice,	DSEI
	Construction or rehabilitation of pumping stations	B (minor risk)	-		No further actions after filling the Environmental Screening Checklist, following good civil works practice,	DSEI
					ESMP Checklist,	
7	Sewerage network extension and rehabilitation;	B	3 (p15)		ESIA and ESMP	DSEI
	Rehabilitation of sewage pumping stations	B (minor risk)	-		ESMP Checklist	DSEI
	Septic Tanks	C	-		No further actions after filling the Environmental Screening Checklist	-
	Rehabilitation of waste water treatment plants	B	3 (p15) if WWTP's capacity is less than 50 m^3/day 2 (p15) if WWTP's capacity more than 50m^3/day		ESIA and ESMP	DSEI and SEC
8	Solid waste management systems: Construction of solid waste processing facilities	B	3 (p27)		ESIA and ESMP,	DSEI and SEC
	Construction of collection points	B (minor risk)	4 (p9)		ESMP	DSEI
	Improvement of solid wastes landfill	B (minor risk)	-		ESIA and ESMP	-
9	Social infrastructure upgrading: Repair/replacement of external doors and windows, window optimization;	C	-		No further actions after filling the Environmental Screening Checklist	-
	Insulation of walls, basements and attics;	C	-		No further actions after filling the Environmental Screening Checklist	-
	Small scale refurbishing activities inside the school premises (e.g. walls repainting, tiling, installation of cable ducts, new water-pipes);	C	-		No further actions after filling the Environmental Screening Checklist	-
		B	-			-

No	Project activity	Proposed Category		Remarks	Proposed EA instrument	Requirements of national legislation
		WB	National			
	Major refurbishing activities involving removal / reconstruction of walls (especially when containing Asbestos isolations or sheets); Replacement of the asbestos roofs;	B	-		ESMP Checklist including Asbestos management plan ESMP Checklist including Asbestos management plan	-
10	Cultural heritage rehabilitation and conservation	B (minor risk)	-		For minor rehabilitation civil works – mitigation and monitoring measures in the site specific ESMP; for large conservation and renovation activities – special PCR Management Plan	DSEI
12	Underground electric cabling (for magistral lines) Overhead electric cabling New distribution electrical transformers; Installing of short segments of new distribution lines or replacing of obsolete pillars;	C C C C	3 (p8) 4 (p8) - -		After completing screening checklist – including Occupational Health and Safety measures in the civil works contracts Similar as above Similar as above Similar as above	DSEI DSEI DSEI -
14	Purchasing of public utilities equipment; transportation means.; etc.	C	-		No further actions after filling the Environmental Screening Checklist	-
15	Reconstruction, modernization of heating systems, (replacement or modernization of the heat source such as: burner, boiler or external sources); Buildings retrofitting and insulation; Installation of solar panels; Replacement of old heating pipes under roads to be rehabilitated	B C C B (minor risk)	3 (p52) if capacity is less than 100 m^3/h - - -	In the case of involving civil works	ESMP Checklist and OHS requirements into civil works contracts No further actions after filling the Environmental Screening Checklist Similar as above ESMP Checklist	DSEI and SEC (for category 3 only) - - -
16	Smalls scale construction of public facilities (information centers; visitor centers; maintenance facilities; storage facilities)	B (minor risk)	4 (p7)		ESMP Checklist	DSEI
17	Installing antennas for providing WIFI services	C	-		After completing screening checklist – including Occupational Health and Safety measures in the contracts	-

12.4 Types of ESA instruments

372. Once the project category is defined, it is necessary to determine which documents need to be prepared in accordance with national legislation and the WB OP 4.01. For Category C sub-projects beyond screening, no further EA action is required. Category B (moderate impact) projects will require the development of an ESMP. Category B (low impact) and Category C projects require and ESMP Checklist (see Annex 9 with the generic TORs for an ESIA and Annex 10 with a template and requirements for a generic ESMP). In some cases for more complex sub-projects, an ESIA may need to be prepared.

373. For sub-projects that are associated with certain impacts that are not significant and that can be mitigated by well known mitigation or avoidance measures, or by applying best household and/or construction practices - Category B (low impact) - it is recommended that a small scale construction and rehabilitation checklist be applied. Table above provides details on the classification of potential projects and the proposed environmental assessment tools.

374. As described in Chapter 3, there are some differences in the categorisation of the project and the actions required between the WB OP and national environmental legislation. In accordance with national legislation, an environmental assessment and further action is not required for existing facilities if: (i) The planned rehabilitation/repair of some of the facilities will be carried out without expanding the area of the facilities to be constructed, and (ii) natural resource consumption and waste generation, discharges and emissions will not increase during the operational phase. The legislation does not require the preparation of a separate ESMP or any other environmental documents/plans/checklists. However, WB OP 4.01 requires the development of a separate checklist of WB OP for activities that have a low environmental impact. Taking into account that for this project it is necessary to apply more stringent requirements, as subprojects/activities that are not included in the list of mandatory state environmental impact assessment (Annex 8), but that are under the activities with low impact (category B), the development of a checklist of ESMP (see Annex 11). In the case of rehabilitating local roads without expanding it out of Right of Way (ROW) it is recommended to apply an ESMP Checklist for such type of subprojects (Annex 12).

375. **Chance finds procedures.** It is expected that the rehabilitation and restoration works will mainly include primarily repair and upgrading of roads, buildings, water supply and sanitation networks, etc., which would involve significant excavations, demolition, movement of earth, or other changes in the physical environment, during which unexpectedly might be found physical cultural resources. To address this issue all such subprojects' ESMP, will have special clauses in all contracts for civil works on "chance finds procedure" which will set out how chance finds associated with the subproject will be managed. These will specify the following: (a) do not disturb any chance find further until an assessment by competent professionals is made and actions are identified; (b) notify relevant authorities of found objects or sites by cultural heritage experts; (c) to fence-off the area of finds or sites to avoid further disturbance; (d) to conduct an assessment of found objects or sites by cultural heritage experts; (e) to identify and implement actions consistent with the requirements of the OP 4.11 on Physical Cultural Resources and national law; and (f) when needed, to train project personnel and project workers on chance find procedures.

12.5 The role of different involved parties in the environmental screening, ESA process and monitoring of the ESMP implementation

376. This section provides description of the responsibilities of all involved in the ESA process parties as well as of the documents that needs to be prepared and by whom. The local hokimyats authorities and/or on their behalf local enterprises (subprojects beneficiaries): complete the form (Annex 13; Form 1) to identify possible environmental and social impacts of proposed activities. In completing these forms, the subproject applicants' will use the info presented in the Statement of the draft Environmental Impacts to be presented to the SEE and approved by this body. They are also responsible for obtaining appropriate permits and approvals that may be required for the activity to be financed, and, are issued by the local authorities responsible for environmental issues. This document along with the detailed subproject proposal is presented to the Regional. It is expected that the majority of sub-projects will fall into category B.

377. Regional SSs conduct screening of applications on subprojects including for project eligibility, environmental and social impacts, ensuring required permits and approvals have been obtained and filling part 2 of the screening forms (Annex 13/Form 2). Per the results of environmental screening and in the case the

subproject is qualified as category B, ensures an ESMP is prepared which includes a monitoring plan. The regional SS, when needed, will carry out field site visits for on-site environmental site visits (specifically, for sub-projects classified as category B), verifying the environmental and social data provided by applicants, assisting in identification of mitigation measures, and confirming that the environmental category is appropriate and that the ESMP is adequate and filling a special form (Annex 13/Form 3). When the RSSs visit reveals environmental and social risks, the subproject applicant will hire a consultant to prepare an ESMP. The cost of the ESMP can be included in the subproject amount retroactively, if it has already been approved. During the subprojects implementation the Regional SSs will ensure compliance with the ESMP requirements;

378. The PIU - review the quality of environmental screening of applications on the subproject activities, done by the RSSs, including the quality of the environmental and social impact assessment study, verifying necessary permissions and approvals and filling screening checklist (Annex 13/Form 4). Before starting subproject implementation, the PIU will conduct the final assessment of the ESA activities, filling the screening form (Annex 13/Form 5).

379. During the project implementation the PIU will also conduct randomly monitoring of compliance of project activities with ESMP requirements; provide advice to regional SS on specific issues that may arise including ESMP preparation and assistance to category B projects through site visits; monitor for cumulative impacts; provide training on environmental and social due diligence to PFIs; provide training on ESA rules and procedures within the third project component.

380. In the case of non-compliance, PIU and Regional SS will investigate the nature and reason(s) for non-compliance, and a decision is taken about what is needed to bring a sub-project into compliance, or whether financing should be suspended.

13. INSTITUTIONAL MECHANISMS

13.1 Project coordination

381. The Ministry of Economic development and poverty reduction (MoED) of the Republic of Uzbekistan is assigned as implementing agency for the project. To prepare the project, MoED has established a Project Implementation Unit (PIU), whose responsibilities include issues related to project preparation, including the development of the ESMF, procurement strategy and plan, safeguards issues and other activities.

13.2 Project implementation team

382. The PIU is led by a Project Director with relevant staff, - full time Environmental and Social Safeguards Specialists and will oversee overall coordination of ESMF and RPF implementation, reporting to MoED, and to the WB regarding safeguards issues, as well as of integrating safeguards requirements into bidding and contracting documents. It is the responsibility of PIU for interacting with the environmental authorities, ensuring an efficient implementation of safeguards documents and PIU will undertake, randomly, field visits and environmental supervision and monitoring, assessing environmental compliance at worksites, advising project Regional Safeguards Specialists on environmental and social safeguards issues. The PIU will be, also, responsible for identifying ESA training needs of all parties involved in ESMPs and RAPs implementation. Among main duties of Environmental SS are the following:

- Undertake a thorough review of the sub-projects' environmental classification in accordance with the WB requirements;
- Providing EA consultants with guidance on the preparation of Category B and C EA documents in accordance with WB requirements;
- Providing EA consultants with guidance on consulting and disclosure requirements for Category B projects;
- Providing EA consultants with guidance on identifying subprojects that would have impacts on cultural heritage sites, natural habitats, forests and international waterways, - subprojects which are to be excluded from the project financing;
- Review of EA documentation, submission of written comments to Regional, EA consultants, ultimately ensuring formal approval of documentation and procedures as required by WB safeguards;
- Ensuring that the subprojects documentation included ESA implementation agreements and any other environmental or social safeguards requirements;
- Oversee jointly with the regional SS the implementation of the ESMP by the construction contractor and the implementation of documents, recommendations and any further actions required as part of the overall reporting of the WB project supervision;
- Be open to comments from affected groups and local environmental authorities regarding the environmental aspects of subproject implementation. Meet with these groups during site visits, as appropriate;
- Coordination and liaison with the WB Supervision Mission with regard to environmental safeguards aspects of the subproject.

13.3 Regional administrations and PIU staff

383. Single Customer Services (SCS) engineering companies under the regional hokimiyats in each participating region will provide services to the PIU. The PIU will mobilize staff based at the regional level, which will include one Safeguards Specialist (SS), whose main duties would be to ensure that the project activities are implemented in compliance with the WB safeguards Operational Policies and national EA rules and procedures. Among major responsibilities of the regional SS will be the following:

a) Conducting social and environmental screening in collaboration, qishloq facilitators and engineers, and Mahalla Development Unit members;
b) Preparing ESMPs, ESMP Checklists, and ARAPs in collaboration, qishloq facilitators and engineers, and Mahalla Development Unit members, and design consultants;
c) ensuring that contractors comply with all ESMPs requirements;
d) coordinating of all environmental and social related issues at the regional district and qishlok level;
e) conducting ESMP supervision and monitoring and assessing environmental and social impacts and efficiency of mitigation measures, as well as identifying non-compliance issues or adverse trends in results, and putting in place programs to correct any identified problems;

f) when in need, providing advises and consulting contractors in RAP implementation;
g) reporting to the PIU with regard to implementation of the ESMPs and RAPs.

384. **Land Resources and State Cadaster Department (LRSCD).** LRSCD for each District in the Project is responsible for identifying and verifying property boundaries and ownership. They also will clarify land allotment certificates for agricultural land that has been formally registered and transferred to the Immovable Property Registration Offices.

385. **The Local Hokimiyats.** District Hokimiyats and local communities (mahallas) are the final beneficiaries of the project implementation; it is required continuous assistance and presence during all the progress of the project. They will be responsible for the coordination of the implementing procedures and execution of the compensation together with MoED/PIU. In the Table respective institutional arrangement is presented. The table describes in detail the steps of a Resettlement Action Plan (if any) to be implemented.

14. MONITORING AND REPORTING ACTIVITIES

14.1 Key social monitoring and reporting requirements

386. Monitoring and evaluation. Monitoring Indicators on the Social Impacts are among others the general project acceptance by community; success/acceptability of the compensation/ resettlement process; restoration of areas temporarily disrupted by construction.

387. The responsibilities for monitoring and evaluation are shared between the PIU Safeguards Unit and the MoED. The PIU Safeguards Unit is responsible for record-keeping, management and internal monitoring of the GRM. The MoED is responsible for coordinating external monitoring and evaluation of the project implementation. It's worthy to get opinion of PAPs representatives of the impacts and the effects of the project through a household survey to be undertaken as a monitoring and evaluation exercise.

388. **Internal and external monitoring.** At this stage it is not yet decided if any Consulting company (CC) would be contracted to undertake concurrent M&E of RAP implementation. As usual the project must involve a Cadastral and civil engineer who can assess the provided land and in case provision of suitable houses,quality of houses built and the common properties that are being rebuilt/relocated.

389. In a case if the M&E CC to be hired this shall undertake monitoring and verification of processes and activities in RAP implementation and would submit quarterly reports. The CC would also undertake an end-term evaluation post RAP implementation to ascertain if the RAP objectives have been achieved. It is the responsibility of the CC to identify gaps based on desk reviews and field visits and provide timely inputs for course-correction to MoED to improve implementation and outcomes, to recommend measures necessary to build capacity and provide requisite training to implementation staff and other stakeholders such as civil works contractor. Some of the key activities would include monitoring and verification of:

a) timely payment of compensation and assistance and prior to the commencement of civil works;
b) processes followed in the dissemination of information on the project and eligible entitlements as well as the quality of consultations;
c) processes followed in the relocation of PAPs as per relocation plan, if displaced;
d) provision of replacement cost (towards the cost of structures, shifting and replacement house);
e) relocation of all common properties such as toilets, temples, etc.
f) the provision on livelihood support measures, training towards rehabilitation;
g) provision of work opportunities to PAPs and other community members during civil works;
h) grievances received and redressed.

390. **Social impact evaluation.** Impact evaluation of the project must be taken up twice – during the project's midterm and again as an end term at the end of RIDP. End term impact evaluation exercise to be carried out within two months of completion of RAP implementation. This includes evaluation the RAP implementation – activities, processes, and outcomes; assertion if there are any pending issues and making recommendations towards the improvement of outcomes, if any. The key socio-economic indicators for the RAP must be used for mpact evaluation. It is recommended prior to commencing the evaluation exercise, these indicators will be further refined and improved upon by the agency in consultation with MoED/PUI.

14.2 Environmental monitoring

391. Sub-projects will be monitored on a regular basis through the monitoring of PESUP implementation by contractors throughout the construction phase.

392. Environmental and social issues included in the mitigation framework are monitored by designated specialists through the PIU and Regional SS. Although the environmental and social impacts are expected to be quite low, the potential negative impacts on the environment are planned to be prevented or mitigated during the construction and operation phases. Monitoring is based on impact / mitigation / monitoring issues as defined in the ESMP and/or ESMP checklists of subprojects. Observation monitoring will be carried out through weekly audits of the environmental performance by contractors throughout the construction period. The PIU has the right to suspend work or payments if the Contractor is in breach of any of its obligations to implement an ESMP.

393. *Instrumental monitoring of environmental quality, such as air and water quality*. Given the types of activities that will be carried out within the framework of this project, instrumental monitoring may not be carried out. However, in the event of complaints of environmental disturbance/convenience from local communities, the Contractor shall conduct analytical measurements of air or water quality through a certified laboratory. In addition, World Bank experts will also conduct field visits to verify compliance. As mentioned above, in the case of non-compliance with the regional SS/PIU, the nature and cause of the non-compliance will be investigated and a decision will have to be made on what is necessary to bring the subproject into compliance or funding will have to be suspended.

14.3 Environmental and social reporting

394. Component 2 will support Monitoring and Evaluation (M&E) activities to track, document and communicate the project management, monitoring and evaluation, and capacity building. This component supports the PIU development and implementation of a geo-referenced management information system on the Internet, and monitoring of baselines, milestones and outcomes. PIU is responsible for overall compilation of progress and results. It is suggested that semi-annual reports and quarterly unaudited IFRs will be submitted to WB. These reports should include the scorecards of communities on project implementation and success along with financial records, project implementation records, social audit meetings, and feedback and grievances received. Results measurements are outcomes defined in the results framework and set of output indicators defined in POM. The PIU will be responsible for producing a completion report. All environmental and social issues are monitored and supervised by PIU or Regional SS. In spite of insignificant social impact the potential negative impacts must be prevented or mitigated during construction and operation stages.

395. Environmental and social monitoring system starts from the preparation phase of the subproject through the operation phase in order to prevent negative impacts of the project and observe the effectiveness of mitigation measures. This system helps the WB and the Client to evaluate the success of mitigation as part of project supervision and allows taking an action when needed. The monitoring system provides technical assistance and supervision when needed, early detection of conditions related to mitigation measures, follows up on mitigation results, and provides information of the project progress. Monitoring Plan identifies monitoring objectives and specifies the type of monitoring, and their link to impacts and mitigation measures. Specifically, the monitoring section of the ESMP provides: (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements; and, (b) monitoring and reporting procedures to: (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

14.4 Integration of ESMF into project documentation

396. The ESMF requirements will be integrated in the Project Operational Manual while the ESMPs requirements, - in construction contracts for all sub-projects, both into specifications and bills of quantities, and the Contractors will be required to include the cost for ESMP implementation in their financial bids. Based on the ESMF there will be highlighted the roles and responsibilities of all involved parties in the ESA process. Lastly, based on the ESMF and ESMPs requirements, monitoring and evaluation of mitigation/avoidance measures identified in the site specific review and in the ESMPs will constitute integral part of the subproject implementation, incluinto ding them the contracts binding the and the contractors will need to carry out the environmental and social obligations during civil works. Furthermore, all contractors will be required to use environmentally acceptable technical standards and procedures during carrying out of works. Additionally, as specified in the ESMF, the contract clauses shall include requirements towards compliance with all national construction, health protection, safeguard procedures and rules as well as on environmental protection.

15. EA CAPACITY BUILDING ACTIVITIES

397. The implementation of the ESMF requires specific knowledge for beneficiaries and operators engaged in the different phases of the project implementation. The project will support relevant trainings on knowledge and information on topics such as the ESMF implementation, ESMF/ESMP reporting, World Bank EHS Guidelines, management of hazardous materials and etc. For this purpose, before the civil works will start, the PIU will hire a Consultant with knowledge on the environmental and social management requirements for Republic of Uzbekistan, along with substantial knowledge on World Bank safeguards policies and requirements which will provide ESA training. The training will include the basic requirements of the WB and National safeguards rules and procedures, as well as case studies in this regard (table 18). The training activities will continue also during the project implementation when the consultant will provide on the job training regarding environmental and social monitoring and supervision. The proposing the Project's capacity building on environmental and social aspects will cover three main directions:

i) ***PIU's and Regional' capacity*** on ESMF implementation during sub-projects selection process and sub-project construction stages – the hired Consultant will provide respective training for PIU and Regional's staff and SSs on WB OPs safeguards requirements, ESMF, ESMP, RPF and RAP preparation and further assistance in monitoring of the RAPs and ESMP.

ii) ***Beneficiaries' Capacity/oblast/districk hokimyats -*** on development of ESMP and RAPs. Since the program will be implemented during several years, the Consultant will provide training for local authorities involved in preparation of ESA reports and conduction per national EA environmental and social assessments. The training will be dedicated to harmonization of process of WB's ESIA and national ESA. The target will be to educate EA developers and specialist from local environmental agencies to prepare the documents which meet WB safeguards standards as well.

398. A separate training on handling, collection and disposal of hazardous materials (especially on asbestos materials) for PIU's, PRCUs' SS and contractors will be provided by the Consultant before starting civil works. As per national requirements the contractors will have to conduct OH&S training for workers with indication in special logbook which will be kept on each construction site.

399. For the project sustainability it is important along with physical interventions, institutional improvements and financial enhancing, to increase people awareness on the project related topics, particularly waste management, water supply and sanitation aspects. It is proposed, that hired Consultant in collaboration with national NGOs and relevant agencies will develop awareness program which will cover three mentioned above topics and delivered to the target groups through seminars. The tentative plan of capacity building and training plan is presented below.

Table 18. Tentative plan for capacity building and training program

	Name of training	Time and tentative duration of the training	Recipients	Organizer	Tentative cost
1	Overview on WB OPs on safeguards and their implementation during the project cycle. National Environmental requirements for project preparation and implementation	During first year of Project implementation Duration – 1 day	MEI; PIU Regional	Consultant	3000 USD
2	Implementation of ESMF, ESMP, RPF and ARAP/RAP	Before sub-projects selection and approval Duration - 2 days	PIU's and Regional' SS	Consultant	3,000 USD

4	Development of Gender Action and CE Plans	Before project implement- tation on the ground 2 days	PIU; Regional; Local authorities	Consultant	3,000 USD each. Total 9,000 for three regions
5	OH&S, Handling and disposal of hazardous materials	Before starting respective works 1 day	PIU; Regional SS; Contractors	Consultant	3,000 USD each. Total 9,000 for three regions
6	Awareness program,	Continuously during the program implementation	General Public, Main stakeholders	Consultant, PIU and RPCUs	20,000 USD
7	Citizen Engagement Component	Continuously during the program implementation	PIU and Regional SS	Consultant	3,000 USD each. Total 9,000 for three regions
	Total				**53,000 USD**

16. GRIEVANCE REDRESS MECHANISM

16.1 General concepts of GRM

400. Transparency and accountability should be fundamental principles of the project and subprojects. To this end, the project should establish a grievance mechanism (GRM) that is accessible to all, including different ethnic, religious, gender and other special groups. The mechanism aims not only at receiving and recording complaints, but also at how they are resolved. An awareness campaign and training should be conducted in support of GRM. Despite the fact that feedback should be considered at the level closest to the complaint, all complaints should be registered centrally and follow basic procedures.

401. The grievance mechanism is the process of receiving, assessing and reviewing project-related grievances from affected communities at the project and sub-project levels. Project/sub-project impacts include involuntary resettlement, construction impacts, limited access to infrastructure, environmental and social impacts and others. The purpose of GRM is also to enhance accountability to project beneficiaries and to provide channels for feedback to project stakeholders on project activities. This mechanism allows for the identification and resolution of issues affecting the project, including: complaints regarding security measures, staff misconduct, misuse of funds, abuse of power and other misconduct. By increasing transparency and accountability, GRM aims to reduce the risk that the project/sub-projects will unintentionally harm citizens/beneficiaries and serves as an important feedback mechanism to improve the impact of the project.

402. **The Grievance Redress Mechanism.** Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to the project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). Project specific GRM is developed drawing upn the existing complaing handling mechanism and encompasses establishing external committees at different levels to redress the grievances.

403. Grievance Redressal Committee (GRC) will be established at four-levels, one at Mahalla level and the others at district, region, and PIU to receive, evaluate and facilitate the resolution of displaced persons concerns, complaints and grievances. The GRC will provide an opportunity to the locl people to have their grievances redressed prior to approaching the State Authority. The GRC is aimed to provide a trusted way to voice and resolve concerns linked to the project, and to be an effective way to address aggrieved person's concerns without allowing it to escalate resulting in delays in project implementation.

404. The GRC will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. The GRC is not intended to bypass the government's inbuilt redressal process, nor the provisions of the statute, but rather it is intended to address displaced persons concerns and complaints promptly, making it readily accessible to all segments of the displaced persons and is scaled to the risks and impacts of the project.

405. The GRC will continue to function, for the benefit of the PAPs during the entire life of the project including the defects liability periods. The response time prescribed for the GRCs would be three weeks. Since the entire resettlement component of the project has to be completed before the construction starts, the GRC, at Mahalla and District will meet at least once in three weeks to resolve the pending grievances. Other than disputes relating to ownership rights and apportionment issues on which the State has jurisdiction, GRC will review grievances involving all resettlement benefits, relocation and payment of assistances.

406. The Facilitating Partner (NGO) will assist the impacted persons in registering their grievances and being heard. The complaint / grievance will be redressed in 3 weeks time and written communication will be sent to the complainant. A complaint register will be maintained at Mahalla/ District/ PIU level with details of complaint lodged, date of personal hearing, action taken, and date of communication sent to complainant. If the complainant is still not satisfied s/he can approach the jurisdictional State Authority. The complainant can access the appropriate Authority at any time and not necessarily go through the GRC.

Table 19. GRM at different levels

Level	Description
PIU at MoED	PIU will set up a separate "hotline" telephone number to receive phone calls from citizens on queries, complaints, feedback, proposals etc PIU will have to have e-registry of all calls specifying date of call, topic and if the issue was resolved during conversation or needs follow up measures. Anonymous calls/written queries should be received Google drive and/or other platforms should be used to back up files PIU will use e-system (for ex Germes, etc) to register written complaints and queries System should have information on date of receiving query / sending reply; topic of query; outcome of query. MIS will be set up that will have integrated GRM, specifically: Receive feedback / complaints/ proposals from any citizen Description of grievance redress handling procedure with timelines and appeal procedure System must have technical feature to sendautomatic confirmation to citizen that his query is well received with describing graveness handling procedure with timelines All queries and complaints should be automatically backed upwith dates of receiving/reply/outcome and technical feature to download this data in Excel file to use for reporting Public awareness/information products both on project and GRM should be available on MIS for downloading PIU will have establish internal communication mechanism with Ministry of Employment and Labor Relations on labor related issues. GRM/MIS/Social Safeguards specialist will be in charge of building communication channels with MoELR for timely sharing any complaint/query received on labor issues and providing response back to citizen. Brief information on project and project GRM intake channels will be pinned at MoED's web page and social networks
Regional Level	At the regional level, the regional hokim shall assign or establish a team responsible for handling grievances. The PIU regional SS should be part of the team, as should be a representative of the United Customer Services entity that is responsible for Procurement of subgrants (Component 1a). The PIU SS based in Tashkent will provide oversight to make sure that the regional level teams/committees are functioning properly, and that grievances that cannot be addresses are escalated to Tashkent.
District implementation team	At the district level, ultimate authority resides with the hokim. S/he will establish a team/committee (or assign an existing body) as responsible for handling grievances. The team could include representatives of the FP as resources persons to support follow up given that there will not be any PIU staff hired at the district level. That said the PIU SS at the regional level should provide oversight that the grievances are being redressed, and report up if they are not. District implementation team will install box at the office of district Khokimiyat to collect any written grievances and queries from citizens. Facilitating Partner will check this box once every 2 weeks and will forward it to PIU either through regional PIU representatives or through MIS. All district Khokimiyats covered by project will have public awareness/information products both on project and GRMprovided by PIU that could be placed in easily accessible area for citizens at the office of Khokimiyat.
MDU	At the village level, a grievance redress focal point should be identified as part of the MDU established with support of the FPs.

	MDU will install **box at the office of MCA** to collect any written grievances and queries from citizens. Facilitating Partner and/or MCA project committee's chair will check this box once every 2 weeks and will forward it to PIU either through regional PIU representatives or through MIS. **All MCAs offices covered by project will have public awareness/information products both on project and GRM** provided by PIU that could be placed in easily accessible area for citizens at the office of MCA.

16.2 Deadlines for handling complaints

407. Depending on the severity of the impact or damage suffered by the PAP, complaints/appeals to the PIU may be dealt with at different times. Complaints/appeals that do not require expert opinion can be considered within 15 days, with mandatory notification to the complainant. In other cases, where the complaint/appeal requires a thorough investigation with the involvement of specialists, the time limit for consideration of the complaint may be 30 days with mandatory notification to the complainant.

16.3 GRM special conditions

408. The grievance mechanism specifically addresses the issue of resettlement, compensation and land acquisition. PAP will have the right to file complaints and requests for any aspect of compensation for land acquisition and resettlement. The PIU will ensure timely and satisfactory resolution of complaints and grievances on any aspect of land acquisition, compensation and resettlement. PAP is well placed to resolve its grievances at the project level. As part of the proposed project-level grievance mechanism, affected households may appeal any decision, practice or activity related to the valuation or valuation of land or other assets, acquisition and compensation. Grievances may arise from members of communities who are dissatisfied with:

a) the eligibility criteria,
b) community planning measures,
c) actual implementation,
d) ecologic issues.

409. The GRM for the current project takes into account the national legislation, the specificity of the project sites and results of public consultations. According to the Resolution 97 (29 May 2006) the Hokimiyats of the respective districts are obliged to notify owners of residential, production and other buildings, constructions and plantings on the made decision in writing for signature not later than six months prior to demolition, attaching to the notice copies of the relevant decisions of the hokims of districts and regions on the basis of the decision of the Cabinet of Ministers of the Republic of Uzbekistan on any land acquisition, demolition of residential, production and other buildings, constructions and plantings located in the land.

410. The World Bank's Community Grievance Service. Individuals who believe they are being adversely affected by a World Bank (WB)-supported project have the right to refer complaints through existing project level grievance mechanisms or through the WB Grievance Service (GS). GS ensures that complaints received to resolve project-related issues are addressed immediately. Project affected communities and individuals have the right to submit complaints to the independent WB Inspection Panel, which determines whether or not compliance with WB policies and procedures has caused or could cause harm. Complaints may be filed at any time after concerns have been brought to the attention of the World Bank and the Bank's management has been given the opportunity to respond to such a complaint. For procedures for filing complaints with the World Bank's Grievance Service (GS), please go to the following link: http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service To see how to file a complaint with the World Bank Inspection Commission, please go to the following link: www.inspectionpanel.org

411. The PIU should provide information on the scope of GRM, eligibility criteria for filing a complaint, the complaint procedure (where, when and how), the investigation process, the timeframe for receiving a response to complaints, and the principle of confidentiality and the right to file anonymous complaints. Information on the grievance processing system should be disseminated to all beneficiaries and persons affected by the project through regular information channels used by the project, including through meetings at the beginning of the project, public hearings on resettlement, public meetings during project implementation, brochures in local languages, posting on notice boards and on the Internet, and information as part of training activities carried out by the project.

412. Periodic public information campaigns should encourage the use of GRM and publish information on complaints received and resolved. Campaigns will use local media (e.g. television, newspapers, radio). In organizing and conducting these campaigns, special efforts should be made to communicate information to socially vulnerable groups. Periodic public information campaigns should encourage the use of GRM and publish information on complaints received and resolved. Campaigns will use local media (e.g. television, newspapers, radio). In organizing and conducting these campaigns, special efforts should be made to communicate information to socially vulnerable groups.

17. ESMF DISCLOSURE AND PUBLIC CONSULTATION

413. ESMF disclosure and Public consultation. ESMF and RPF preparation has been highly participatory. Extensive consultations have been held with various stakeholders including the public communities, local / district/ regional authorities, other departmetns and service providers. The draft ESMF and RPF in English and Russian languages were disclosed on August 21, 2019 on the MoED website. Consultation workshops were held in the the participating regions on August 27-28 and in Tashkent city on August 29, 2019. Based on suggestions received during the consultation workshops, the ESMF and RPF documents have been updated, finalized and published on the MoED website and will be published on the external WB website. Minutes of consultations held are given in Annex 14.

18. ANNEXES

1. ANNEX. Population of project area (2019)

No	Region	Square Km2	Area of the district as a percentage of the area of the region	Population	Urban population (people)	Urban population (%)	Ruralpopulation (people)	Ruralpopulation (%)	Distance from the regional center	Population younger than working age (people)	Population younger than working age (%)	Population of working age (people)	Populationofworkingage (%)	Population older than working age (people)	Population older than working age (%)
	Fergana region	**7005 km2**													
1	Yazyvan district	440	6,28%	105900	64200	60,62%	41700	39,38%	45 km from Fergana	33000	31,16%	63800	60,25%	9100	8,59%
2	Sokh district	352	5,02%	74 800	47700	63,77%	27100	36,23%	93.7 km from Fergana	24900	33,29%	44000	58,82%	5900	7,89%
3	Furkat district	310	4,43%	113800	27000	23,73%	86800	76,27%	109.3 km from Fergana	32400	28,47%	69000	60,63%	12400	10,90%
4	Kushtepa district	390	5,57%	182000	72200	39,67%	109800	60,33%	25 km from Fergana	53600	29,45%	112200	61,65%	16200	8,90%
	Namangan region	**7 181 km2**													
5	Mingbulakdistrict	740	10,30%	120600	41800	34,66%	78800	65,34%	47.8 km from Namangan	36400	30,18%	75100	62,27%	9100	7,55%
6	Pop district	2941	40,96%	211300	121400	57,45%	89900	42,55%	71.9 km from Namangan	61500	29,11%	131400	**62,19%**	18400	8,71%
7	Chartak district	360	5,01%	190900	127500	66,79%	63400	33,21%	33.4 km fromNamangan	57300	30,02%	116700	61,13%	16900	8,85%
8	Chust district	916,7	12,77%	255000	171200	67,14%	83800	32,86%	40.9 km from Namangan	69700	27,33%	159600	62,59%	25700	10,08%
9	Yangikurgan district	540	7,52%	208800	144200	69,06%	64600	30,94%	37.4 km from Namangan	61400	29,41%	130800	62,64%	16600	7,95%
	Andijan region	**4303 km2**													
10	Boz district	200	4,65%	69100	24100	34,88%	45000	65,12%	33.8 km from Andijan	21000	30,39%	42500	61,51%	5600	8,10%
11	Bulakbashidistrict	200	4,65%	137100	66800	48,72%	70300	51,28%	41.7 km from Andijan	40400	29,47%	82900	60,47%	13800	10,07%

2. ANNEX. Summary of social and economic indicators of selected project sites (based on field survey on June 24-28, 2019)

Andijan region [42]

	District	Mahalla	Agriculture			Distance from center of (km)		Population	of them				access to basic service, %			HH			Social infrastructure (distance from mahalla, km)			
						district	region		unemployed	migrated	employed		water	electricity	gas	total	of them		medical centers	schools	kindergartens	service
											farmers	entrepreneurs					headed by women	low income				
1	Ulugnar	Gulistan	cotton	weat	vegetables &fruits	20	60	3282	15	96	19	130		100	30	854	-	-	7	2		20
		Oqtom	fishery	stock raising		10	70	1976	70	83	8	38		100	80	587	14					
2	Boz	Sarbon		stock raising		17	54	1711	17	115	1	5	60	100		512	19	11				
3	Pakhtaabad	Madaniyat	cotton	wheat	vegetables &fruits	25	30	2582	64	179	4	3		100	96	638	30					

[42] According to data provided by local authorities

Fergana region[43]

	District	Mahalla	Agriculture			Distance from center of (km)		Population	of them				access to basic service, %			HH			Social infrastructure (distance from mahalla, km)			
						district	region		unemployed	migrated	employed		water	electricity	gas	total	of them		medical centers	schools	kindergartens	service
											farmers	entrepreneurs					headed by women	low income				
1	Furqat	Xayit			vegetables &fruits	8	60	3602		39	1	28		100	30	925	13	-				
2	Yozyovon	Suvli ariq	cotton	weat		6	50	4248	600	152	8	75				1017	56		4	5		6
3	Kushtepa	Oqtepa			vegetables &fruits	15	19	4722	12	24	4	46	60	100		1327	19	11				

Namangan region[44]

	District	Mahalla	Agriculture	Distance from center of (km)	Population	of them	access to basic service, %	HH	Social infrastructure (distance from mahalla, km)

[43] ibd
[44] ibd

						district	region		unemployed	migrated	employed		water	electricity	gas	total	of them		medical centers	schools	kindergartens	service
											farmers	entrepreneurs					headed by women	low income				
1	Mingbulak	Baland Gurtepa	cotton	weat		16	50	3640	18		2	7		100	30	920	7		8	2	2	
2	Pap	Chiganok	vegetables	stock raising		10	90	2782	24	134	2	20	60	100		566	10	11				
3	Chortoq	Xazratishox	stock raising		fruits	50	72	7620	360	155	37	45		100	72	1850	30					

3. ANNEX. Summary of suggested by citizen types subprojects (based on field survey on June 24-28)

Subproject	**Andijan Region**			**Fergana Region**			**Namangan Region**		
	Boz district, Sarbon	Ulugnar district, Oqtom	Pakhtaobod district, Madaniyat	Furqat district, Hayit	Kushtepa district, Oqtepa	Yozyovon district, Suvli ariq	Mingbulak district, Baland Gurtepa	Pap district, Chiganok	Chortoq district, Xazratishax
Electricity system rehabilitation/ modernization	street lighting upgrading, to increase a power	street lighting upgrading, to increase a power	street lighting upgrading, to increase a power	street lighting upgrading	to increase a power	to increase a power street lighting upgrading	street lighting upgrading	street lighting upgrading	+ street lighting upgrading
Public places								sport stadium for women	not finished sport stadium
Rehabilitation/ resurfacing of roads/streets	+ rehabilitation/ resurfasing of roads inside a village		rehabilitation/ resurfasing of roads inside a village	rehabilitation/ resurfasing of roads inside a village	rehabilitation/ resurfasing of roads inside a village	rehabilitation/ resurfasing of roads inside a village	rehabilitation/ resurfasing of roads inside a village	rehabilitation/ resurfasing of roads inside a village	
Water supply system reconstruction/ rehabilitation	+ rehabilitation of wells	rehabilitation of 3 wells	rehabilitation of wells, construction a new one	rehabilitation of wells	rehabilitation of wells	rehabilitation of wells			+ rehabilitation of wells
Reconstruction of social infrastructure (schools,	+ reconstruction of school, medical center		reconstruction of kindergarten	reconstruction of medical center	reconstruction of kindergarten	reconstruction of kindergarten			reconstruction of kindergarten

kindergartens, medical centers)									
Internet			poor connection			poor connection			poor connection
Solid Waste management system	separate collection and processing facilities				separate collection and processing facilities				
Irrigation water		shortage of water for irrigation							shortage of water for irrigation blocked in Kyrgyzstan

4. ANNEX. Survey on main environmental problems

To identify the main environmental problems of the selected villages in the Ferghana Valley, the level of readiness of the population to participate in the implementation of project a group of consultants of the project held a meeting with the population of the selected districts and villages in three regions. In the Andijan region, a conversation was held with local residents of three districts (Ulugnor, Boz, Pakhtaabad); In the Namangan region - in three districts: in Mingbulak (Baland Gurtepa MCA), Pop (Chiganok MCA), Chartak districts (Hazratishokh MCA); in Fergana region - in three districts: Furkat (Hayit MCA), Kushtepa (Oktepa MCA), Yazyavan districts (Suvarik MCA). On the basis of these meetings and discussions with the residents (survey on their improvement), a table was drawn up in which their answers were presented. In terms of the number of people interviewed and the percentage of answers to one or another question, it was possible to identify problems in these settlements. The results of these meetings are discussed in detail in Chapter 4, subsection of Analysis of population survey and identification of existing environmental problems.

Table 1: Results of community meetings in three districts of selected villages in each region (in %)

Andijan region			Ulugnor	Buz	Pahtaabad
1	Is the household provided with drinking water?	Yes	40,7	51,7	28
		No			72
2	DDo you know how the cesspools are arranged?	Yes	82	57,6	86
		Yeah, but the terms aren't like that.			
		No			
3	How are houses heated	litter, guzzapaya, firewood			
		charcoal	33	89,6	
		gas	61		83
		electric power			
4	soil	fertile	88	50	94
		infertile			
		I don't know			
5	Water for irrigation	There's plenty of water.	76,4	29,6	
		not enough.		51,8	72,5
		There's not much water because of the need for repairs.			
6	Which waste is generated more ?	recyclable	41	62,9	28,2
		non-recyclable	48		
		I'm having trouble answering.		33,3	51,2
7	How do you dispose of your waste?	We're burning up			
		burying in the yard		75	
		we're throwing away a dump			

		we hand over the garbage trucks	82		94,8
8	landscaping in the spring	public works		53,5	27
		every family on their own	76	39,2	61
		who-who wants			
9	Does the environment suffer from fuel shortages?	Yeah, the trees are being cut down.	29,5		
		There are other sources for heating	29,5		36
		changes in season.	41	51,8	58,3
10	Is it dusty on the roads	yes	86,6	59	83
		no			
11	Do floods, landslides, earthquakes often happen?	yes, often.			
		not very often.			47,8
		not at all	82,3	74	50

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Namangan region			Mingtepa	Pop	Chartak
1	Is the household provided with drinking water?	Yes			42,6
		No	85	96	57,4
2	DDo you know how the cesspools are arranged?	Yes	44	38,6	63,8
		Yeah, but the terms aren't like that.	56	29	25,5
		No			
3	How are houses heated	litter, guzzapaya, firewood	52	70	52
		charcoal	48	21	46
		gas			
		electric power		6	
4	soil	fertile	88	78	31,2
		infertile		15	45,8
		I don't know			
5	Water for irrigation	There's plenty of water.	43	25	
		not enough.	48	45	87
		There's not much water because of the need for repairs.		30	
6	Which waste is generated more ?	recyclable	29	35,7	43,4
		non-recyclable	67	54	32,6
		I'm having trouble answering.			23,9
7	How do you dispose of your waste?	We're burning up	19	40,6	56,2
		burying in the yard	81	50	25

		we're throwing away a dump		9,4	18,7
		we hand over the garbage trucks			
8	landscaping in the spring	public works	21	27	46,6
		every family on their own	79	54	50
		who-who wants		19	
9	Does the environment suffer from fuel shortages?	Yeah, the trees are being cut down.	59	64	68,2
		There are other sources for heating		16	
		changes in season.	32	20	18,2
10	Is it dusty on the roads	yes	91	93	72
		no			
11	Do floods, landslides, earthquakes often happen?	yes, often.			68
		not very often.	30	81	21
		not at all	70	19	

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Ferghana region			Yazyavan	Kushtepa	Furkat
1	Is the household provided with drinking water?	Yes			45
		No	93	94	55
2	DDo you know how the cesspools are arranged?	Yes	67	51	35
		Yeah, but the terms aren't like that.	26	42	65
		No			
3	How are houses heated	litter, guzzapaya, firewood	37	59	69
		charcoal	51	34	24
		gas	6		
		electric power	6		5
4	soil	fertile	82	75	87
		infertile	14	22	11
		I don't know			
5	Water for irrigation	There's plenty of water.	27	74	79
		not enough.	55	23	18
		There's not much water because of the need for repairs.	17		
6	Which waste is generated more ?	recyclable		28	21
		non-recyclable	39	53	63
		I'm having trouble answering.	46	19	
7	How do you dispose of your waste?	We're burning up	41	31	38
		burying in the yard	52	44	37

		we're throwing away a dump			
		we hand over the garbage trucks		22	23
8	landscaping in the spring	public works	43	54	45
		every family on their own	50	40	55
		who-who wants			
9	Does the environment suffer from fuel shortages?	Yeah, the trees are being cut down.	30	47	64
		There are other sources for heating	43	35	12
		changes in season.	27		24
10	Is it dusty on the roads	yes	58	80	84
		no	42	20	
11	Do floods, landslides, earthquakes often happen?	yes, often.			
		not very often.	23	45	58
		not at all	73	52	42

5. ANNEX. Asbestos Containing Material Management Plan (Example)

Applicability

The Asbestos Containing Material Management Plan (ACMMP) applies to all project construction or reconstruction sites and any related areas. Contractors employed by Project are legally responsible for their construction sites and related areas and must follow the provisions of the Project ACMMP within those locations. Specifically, this procedure must be used to ensure the safe handling, removal and disposal of any and all Asbestos Containing Materials (ACM) from those areas.

Immediate Action

On discovering ACM on a Project site the contractor must:

a) Stop all work within a 5 m radius of the ACM and evacuate all personnel from this area;

b) Delimit the 5 m radius with secure fencing posts, warning tape and easily visible signs warning of the presence of asbestos;

c) If the site is in an inhabited area, place a security guard at the edge of the site with instructions to keep the general public away;

d) Notify the RPCU's Safeguards Specialist and arrange an immediate site inspection.

Equipment

To remove asbestos from a construction site, contractors must provide the following equipment:

a) Warning tape, sturdy fence posts and warning notices;

b) Shovels;

c) Water supply and hose, fitted with a garden-type spray attachment;

d) Bucket of water and rags;

e) Sacks of clear, strong polythene that can be tied to close;

f) Asbestos waste containers (empty, clean, sealable metal drums, clearly labelled as containing asbestos).

Personal Protective Equipment (PPE)

All personnel involved in handling ACM must wear the following equipment, provided by the contractor:

g) Disposable overalls fitted with a hood;

h) Boots without laces;

i) New, strong rubber gloves;

j) A respirator is not normally required if there are only a few pieces of ACM in a small area, and if the ACM is damp;

k) There must be no smoking, eating or drinking on a site containing ACM.

Decontamination Procedure 1: Removing small pieces of ACM

a) Identify the location of all visible ACM and spray each lightly but thoroughly with water;

b) Once the ACM is damp, pick up all visible ACM with shovels and place in a clear plastic bag;

c) If ACM debris is partially buried in soil, remove it from the soil using a shovel and place it in the plastic bag;

d) Insert a large label inside each plastic bag stating clearly that the contents contain asbestos and are dangerous to human health and must not be handled;

e) Tie the plastic bags securely and place them into labelled asbestos waste containers (clean metal drums) and seal each drum;

f) **Soil that contained ACM debris must not be used for backfill** and must instead be shovelled by hand into asbestos waste containers;

g) At the end of the operation, clean all shovels and any other equipment with wet rags and place the rags into plastic disposal bags inside asbestos waste containers.

Decontamination Procedure 2: Removing ACM-contaminated backfill

a) If soil containing ACM debris has inadvertently been used for backfill this must be sprayed lightly with water and shovelled out by hand to a depth of 300 mm and placed directly into asbestos waste containers (i.e. not stored temporarily beside the trench);
b) Any ACM uncovered during the hand shovelling must be placed in a clear plastic bag;
c) Once the trench has been re-excavated to 300 mm, if there is no visible ACM remaining, the trench may be refilled by excavator using imported clean topsoil.

Disposal
ACM should be disposed of safely at a local hazardous-waste disposal site if available, or at the city municipal dumpsite after making prior arrangement for safe storage with the site operator.

- The Contractor must arrange for the disposal site operator to collect the sealed asbestos waste containers as soon as possible and store them undisturbed at the disposal site.
- At the end of construction Contractors must arrange for the disposal site operator to bury all ACM containers in a separate, suitably-sized pit, covered with a layer of clay that is at least 250 mm deep.

a) Personal Decontamination
At the end of each day, all personnel involved in handling ACM must comply with the following decontamination procedure:

- At the end of the decontamination operation, clean the boots thoroughly with damp rags;
- Peel off the disposable overalls and plastic gloves so that they are inside-out and place them in a plastic sack with the rags used to clean the boots;
- If a disposable respirator has been used, place that in the plastic sack, seal the sack and place it in an asbestos waste container;
- All personnel should wash thoroughly before leaving the site, and the washing area must be cleaned with damp rags afterwards, which are placed in plastic sacks as above.

b) Clearance and Checking-Off

- The decontamination exercise must be supervised by site supervisors (engineering or environmental).
- After successful completion of the decontamination and disposal, the Contractor should visually inspect the area and sign-off the operation if the site has been cleaned satisfactorily.
- The contractor should send a copy of the completion notice to the RPCU, with photographs of the operation in progress and the site on completion.

TRAINING

RPCU's Environmental Specialist may hire the specialized companies to conduct training on ACCMP implementation for Contractors staff and RPCU and PIU. The training will include a session focusing on ACM, which covered:
a. Risks of contact with ACM;
b. Responsibilities for dealing with ACM on project's construction sites;
c. The Project's ACMMP and the Protocol for site clean-up;
d. Awareness-raising for the contractors' workforce.

COST ESTIMATE

Costs incurred by contractors in implementing the ACMMP are included in their budget in ESMP budget.

6. ANNEX: Excerpts from the Regulation on State Environmental Expertise in the Republic of Uzbekistan No. 541 dd. 07.09.2020

The Centre of State Environmental Expertise (CSEE) is the main body and process of consideration and approval (or rejection) of projects for environmental reasons and is regulated by the Law on Environmental Expertise (2000) and the Cabinet of Ministers Resolution No. 541 of 07.09.2020: "On further improvement of the environmental impact assessment mechanism ". According to article 3 of the above-mentioned law, the Environmental Impact Assessment is carried out for determination:

(a) compliance of the forecasted economic and other activities with the environmental requirements at the stages preceding the decision on its implementation;
(b) the level of environmental hazard planned or ongoing business and other activities that may or have had a negative impact on the environment and public health;
(c) the adequacy and soundness of measures to ensure the protection of the environment and the rational use of natural resources.

The main responsible organization of the state environmental expertise is the State Unitary Enterprise "Center of State Environmental Expertise" (Goskomekologii). The Regulation provides for 4 categories of development:

Category I - high risk;
Category II - average risk;
Category III - low risk;
Category IV - local impact.

Appendix #2 to this Resolution contains lists of activities by category.

Activities not listed in the list of various categories are considered as projects that do not affect the environment, and there is no need to submit them to the state environmental expertise and obtain any environmental licenses. According to paragraph 14 of the Regulation, the stages of environmental impact assessment should include the following main issues (depending on the type and nature of work):

(a) *Draft statement on environmental impact:*
- state of the environment before the beginning of the planned activity, population of the territory, development of lands, analysis of environmental features;
- situational plan with indication of geographic coordinates of the object under consideration, available recreational zones, settlements, irrigation, reclamation objects, agricultural lands, power lines, transport, water, gas pipelines and other information about the area;
- the planned main and auxiliary facilities, equipment, technologies, natural resources, materials, raw materials, fuel, analysis of their environmental impact;
- expected emissions, discharges, waste, their negative impact on the environment and ways to minimize them;
- storage, storage and disposal of waste
- analysis of alternatives to the planned or ongoing activities and technological solutions from the perspective of nature protection, taking into account the achievements of science, technology and best practices;
- organizational, technical, technological solutions and measures that exclude negative environmental consequences and reduce the impact of the object of expertise on the environment;

- Analysis of emergency situations (with probability assessment and scenario of prevention of their negative consequences);
-Forecast of changes in the environment and environmental consequences as a result of the implementation of the object of expertise;

b) *Statement of environmental impact:*
- assessment of environmental problems of the selected site based on the results of engineering and geological surveys, modeling and other necessary studies;
- Environmental analysis of the technology in relation to the identified problems of the site;
- the results of the public hearing;
- substantiated studies of environmental protection measures preventing negative consequences of the implementation of the object of expertise;

(c) Declaration of Environmental Effects (DEE):
- Adjustment of project decisions and other measures taken based on the results of consideration of the environmental impact statement by the specialized expert departments of the State Committee for Environmental Protection, as well as on the proposals made during public hearings;
- Arrangement of pollution sources for environmental impact assessment facilities;
- environmental standards regulating the activities of the object of expertise;
- Requirements to the organization of work and implementation of measures for environmental support of the facility operation;
- main conclusions about the possibility of carrying out economic activities.

7. ANNEX. IFC Exception List (Project Negative/ Exclusion List)

The IFC's Exceptional List defines the types of projects that IFC **does not** fund. The IFC does not finance the following projects:

- Production or trade of any product or activity that is considered illegal under the laws or regulations of the host country or international conventions and agreements, or that is subject to international prohibitions such as pharmaceuticals, pesticides/herbicides, ozone-depleting substances, Polychlorinated biphenyls, wildlife or products regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Manufacture or trade in weapons and ammunition. [1]
- Manufacture or trade of alcoholic beverages (except beer and wine). [1]
- Tobacco production or trade. [1]
- Gambling, casinos and similar businesses. [1]
- Production of or trade in radioactive materials. This does not apply to the procurement of medical equipment, quality control (measurement) equipment and any other equipment if the IFC considers the radioactive source to be minor and/or properly shielded.
- Production or trade of unbound asbestos fibres. This does not apply to the purchase and use of glued asbestos cement sheets with less than 20% asbestos content.
- Drifting nets for the marine environment using networks of more than 2.5 km in length.

The feasibility test will be applied when the activities of the project company have a significant impact on development, but the circumstances in the country will require adjustments to the List of Exceptions.

8. **ANNEX to the Resolution of the Cabinet of Ministers of Semptember 07, 2018 No. 541**

LIST of activities for which the state environmental expertise is carried out

Activities under category I of environmental impact (high risk)

1. Motorways, subways, railways, expressways and freight terminals of national and international importance.
2. Airports.
3. Nuclear power plants, as well as facilities with nuclear reactors.
4. Category I and II oil and petroleum product bases.
5. Drilling and development of oil and gas wells.
6. Water conduits of republican and inter-regional importance.
7. Water reservoirs and dams.
8. Mining and processing plants.
9. City landfills for household waste (for cities with a population of more than 200 thousand people).
10. Hydropower plants with a capacity more than 30 MW.
11. Extraction of mining and chemical raw materials, reclamation of quarries formed during mining.
12. Extraction works in floodplains of riverbeds and lakes.
13. Search, exploration and production of fuel resources (oil, gas, coal, etc.)
14. Iron and non-ferrous metallurgy plants.
15. Tannery and tanning enterprises.
16. Sewage treatment facilities with a capacity of more than 280 thousand cubic meters per day.
17. Power lines of national and interstate importance.
18. Machine building industry (aircraft building, car building, automobile, tractor building, motor building, etc.).
19. Storage or disposal sites for toxic waste, as well as sludge collectors.
20. Waste incineration and recycling plants.
21. Oil and gas pipelines of national importance, as well as oil and gas refineries.
22. Underground gas storage facilities.
23. In-situ leach pads, as well as enterprises using heap leach technology.
24. Waste treatment facilities of I and II hazard classes.
25. Manufacture of batteries, galvanic batteries and cells.
26. Manufacture of asbestos and asbestos-containing products.
27. Manufacture of explosives.
28. Manufacture of equipment or devices containing toxic substances regulated by international agreements.
29. Production, use and storage of radioactive substances (isotopes)
30. Manufacture of glass containing toxic impurities and toxic chemicals and compounds of hazard classes I and II.
31. Manufacture of tobacco products.
32. Cement production.
33. Reclamation of toxic waste tailings dumps.
34. Warehouses of toxic chemicals of national importance.
35. Thermal power plants and other power plants for combustion with a thermal capacity of 300 MW or more.
36. Pharmaceutical plants and factories (except for the finished product packaging companies).
37. Chemical complexes and factories.

Activities related to the second category of environmental impact (average risk)

1. Airfields.
2. Groundwater intakes of inter-regional importance.
3. City landfills of household waste (for settlements with the number from 100 to 200 thousand people).
4. Railway depots.
5. Search, exploration, extraction and processing of common minerals with the volume of more than 30 thousand cubic meters per year.
6. Sewage treatment facilities with capacity from 50 to 280 cubic meters per day.
7. Food production complexes, including the fat-and-oil industry and bioadditives.
8. Enterprises using biotechnology, including cocoon processing.
9. Rubber production.
10. Regional power lines.
Main canals, rivers with a capacity of more than 50 cubic meters per second and collectors with design and calculation flow rate of more than 20 cubic meters per second.
12. oil and gas pipelines of regional importance.
13. Dams.
14. Enterprises producing alcoholic beverages.
15. Enterprises for painting and varnishing of leathers.
16. Enterprises for chemical impregnation of fabrics and paper with varnishes of more than 300 t/year volume, including production of ruberoid, as well as production of toxic chemicals and compounds of III - V classes of hazard.
17. Waste treatment facilities of hazard class III.
18. Enterprises of construction industry, except for asbestos and cement production.
19. Production of paper and cardboard.
20. Manufacture of chipboard and fibreboard.
21. Fiberglass production.
22. Inert gas production.
23. Manufacture of cosmetic preparations.
24. Enterprises producing coal briquettes, including coal and coal dust warehouses.
25. Spinning and weaving factories in the presence of dyeing and bleached industries.
26. Poultry farms, including breeding, processing and slaughtering of poultry.
27. Radio-technical and electronic industry.
28. Warehouses of toxic chemicals of regional importance, including fertilizers.
29. Seismic exploration of oil and gas fields.
30. Thermal power plants and other power plants for burning thermal power from 100 to 300 MW.
31. Cotton processing industry.

Activities related to the III category of environmental impact (low risk)

1. local roads.
2. Vehicle fleets.
3. Filling stations and gas filling stations.
4. Category III oil and petroleum product bases.
5. Biogas plants.
6. Groundwater intakes of regional importance, as well as drilling of water wells.
7. Water conduits of oblast and rayon significance.
8. Gas pipelines of village importance.

9. Hydropower plants with a capacity of 30 MW or less.
10. Processing of common minerals with the volume of less than 30 thousand cubic meters per year.
11. Animal breeding complexes.
12. Railways of departmental importance.
13. Animal husbandry.
14. Sewage treatment facilities with a capacity of less than 50 thousand cubic meters per day.
15. Carpet factories.
16. Production and bottling of soft drinks.
17. Manufacture of raw bricks, cinder blocks, paving tiles.
18. Skin treatment, except tanning and coloring.
19. Main canals with a capacity of less than 50 cubic meters per second of water and collectors with a design and design flow rate of less than 20 cubic meters per second of water.
20. Meat industry (slaughterhouse and processing).
21. Furniture factories.
22. Flour mills.
23. Oil warehouses of enterprises and organizations.
24. Household waste landfills for settlements with less than 100 thousand inhabitants.
25. Wool processing plants.
26. Waste treatment facilities of hazard classes IV and V.
27. Cotton fiber processing plants.
28. Milk processing plants.
29. Enterprises for chemical impregnation of fabrics and paper with varnishes with the volume of production less than 300 t/year.
30. Manufacture of finishing materials used in construction, including production of lime, gypsum, putty and chalk.
31. Manufacture of rubber goods.
32. Shoe making.
33. Manufacture of mixed fodder.
34. Manufacture of hard and liquid soaps.
35. Manufacture of napkins, toilet paper, diapers and hygiene products.
36. Manufacture of polymeric products and synthetic materials, including detergents and cleaners.
37. Manufacture of glassware free of toxic substances.
38. Manufacture of porcelain products.
39. Spinning and weaving factories without dyeing and bleaching shops.
40. Poultry farms by poultry content.
41. Enterprises for packaging of ready-made medicines, as well as food products (tea, salt, sugar, etc.).
42. Enterprises producing coal briquettes from coal crumbs.
43. Reconstruction and reclamation of irrigated lands.
44. Repair of engines and cars, as well as their coloring.
45. Ponds for fish farming with an area of more than 30 hectares, including a processing complex.
46. Markets.
47. Assembly, repair of electrical equipment and metalworking.
48. Mud storages.
49. Seismic and electrical exploration of geophysical and geological studies.
50. Warehouses of toxic chemicals of regional importance, including fertilizers.
51. Special objects of law enforcement agencies.
52. Printers.
53. Thermal power plants and other power plants for combustion with a capacity of less than 100 MW.
54. Tram-trolleybus parks.

55. Chlorinated.
56. Dry cleaners and laundries.
57. Refrigeration units with a capacity of more than 50 tons.
58. Calcium carbide workshops.

Activities related to the IV category of environmental impact (local impact)

1. Service stations and car washes.
2. Cotton wool carding enterprises.
3. Hunting and fishing farms.
4. Carpet weaving company.
5. Flour mill .
6. Stone processing.
7. Objects of recreational and housing and civil purpose.
8. Processing and canning of agricultural products.
9. Sites for solid waste storage.
10. Greenhouses with heating system (natural gas, coal and other types of auxiliary work) (personal subsidiary farms are more musatasno).
11. Livestock, horse, sheep, pig, and rabbit farms.
12. Furniture assembly and repair.

9. ANNEX. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN CONTENT

Part 1

General Remarks. Environmental and Social Management Plan (ESMP) should outline the mitigation, monitoring and administrative measures to be taken during project implementation to avoid or eliminate negative environmental impacts.

The Management Plan format provided below. It represents a model for development of an ESMP. The model divides the project cycle into three phases: construction, operation and decommissioning. For each phase, the preparation team identifies any significant environmental impacts that are anticipated based on the analysis done in the context of preparing an environmental assessment. For each impact, mitigation measures are to be identified and listed. Estimates are made of the cost of mitigation actions broken down by estimates for installation (investment cost) and operation (recurrent cost). The ESMP format also provides for the identification of institutional responsibilities for "installation" and operation of mitigation devices and methods.

To keep track of the requirements, responsibilities and costs for monitoring the implementation of environmental mitigation identified in the analysis included in an environmental and social assessment, a monitoring plan is necessary (see below). Like the ESMP the project cycle is broken down into three phases (construction, operation and decommissioning). The format also includes a row for baseline information that is critical to achieving reliable and credible monitoring. The key elements of the matrix are:

- What is being monitored?
- Where is monitoring done?
- How is the parameter to be monitored to ensure meaningful comparisons?
- When or how frequently is monitoring necessary or most effective?
- Why is the parameter being monitored (what does it tell us about environmental impact)?

In addition to these questions, it is useful to identify the costs associated with monitoring (both investment and recurrent) and the institutional responsibilities.

When a monitoring plan is developed and put in place in the context of project implementation, the PIU will request reports at appropriate intervals and include the findings in its periodic reporting to the World Bank and make the findings available to Bank staff during supervision missions.

Part 2

Description of the of the Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) identifies feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP (a) identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement); (b) describes--with technical details--each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with

designs, equipment descriptions, and operating procedures, as appropriate; (c) estimates any potential environmental impacts of these measures; and (d) provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.

Monitoring

Environmental and Social monitoring during project implementation provides information about key environmental and social aspects of the project, particularly the environmental impacts of the project and the effectiveness of mitigation measures. Such information enables the borrower and the Bank to evaluate the success of mitigation as part of project supervision and allows corrective action to be taken when needed. Therefore, the ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the EA report and the mitigation measures described in the ESMP. Specifically, the monitoring section of the ESMP provides(a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

Capacity Development and Training

To support timely and effective implementation of environmental project components and mitigation measures, the ESMP draws on the EA's assessment of the existence, role, and capability of environmental units on site or at the agency and ministry level. [3]If necessary, the ESMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of EA recommendations. Specifically, the ESMP provides a specific description of institutional arrangements that is responsible for carrying out the mitigatory and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most ESMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Integration of ESMP with Project

The borrower's decision to proceed with a project, and the Bank's decision to support it, are predicated in part on the expectation that the ESMP will be executed effectively. Consequently, the Bank expects the plan to be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities, and it must be integrated into the project's overall planning, design, budget, and implementation. Such integration is achieved by establishing the ESMP within the project so that the plan will receive funding and supervision along with the other components.

Resource: OP 4.01, Annex C - Environmental Management Plan. http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL

10. ANNEX. Environmental Management Plan Checklist (for small scale construction/rehabilitation sub-projects)

General Guidelines for use of ESMP checklist:

For low-risk construction projects, such as minor roads rehabilitation works or the construction of bicycle paths, the ECA (Europe and Central Asia) safeguards team developed an alternative ESMP (environmental and social management plan) format to provide an opportunity for a more streamlined approach to mainstreaming the World Bank's environmental safeguards requirements into projects which (a) are small in scale or by the nature of the planned activities have a low potential environmental impact, (b) are located in countries with well-functioning country systems for environmental assessment and management. The checklist-type format has been developed to ensure that basic good practice measures are recognized and implemented, while designed to be both user friendly and compatible with the World Bank's safeguards requirements.

The ESMP checklist-type format attempts to cover typical key mitigation measures to civil works contracts with small, localized impacts or of a simple, low risk nature. This format provides the key elements of an ESMP to meet the minimum World Bank Environmental Assessment requirements for Category B projects under OP 4.01. The intention of this checklist is that it offers practical, concrete and implementable guidance to Contractors and supervising Engineers for simple civil works contracts. It should be completed during the final design phase and, either freestanding or in combination with any environmental documentation produced under national law (e.g. ESIA reports), constitute an integral part of the bidding documents and eventually the works contracts.

The checklist ESMP has the following sections:

Part 1 includes a descriptive part that characterizes the project, specifies institutional and regulatory aspects, describes technical project content, outlines any potential need for capacity building and briefly characterizes the public consultation process. This section should indicatively be up to two pages long. Attachments for additional information may be supplemented as needed.
Part 2 includes a screening checklist of potential environmental and social impacts, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking "yes", a reference to the appropriate section in the table in the subsequent Part 3 can be followed, which contains clearly formulated environmental and social management and mitigation measures.
Part 3 represents the environmental mitigation plan to follow up proper implementation of the measures triggered under Part 2. It has the same format as required for MPs produced under standard safeguards requirements for Category B projects.
Part 4 contains a simple monitoring plan to enable both the Contractor as well as authorities and the World Bank specialists to monitoring due implementation of environmental management and protection measures and detect deviations and shortcomings in a timely manner.

Part 1. Project Information

INSTITUTIONAL & ADMINISTRATIVE ARRANGEMENTS				
Country				
Project title				
Scope of project and activity				
Institutional arrangements (names and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location			*Attachment 1*: Site Map [ ]Y / [ ]N	
Who owns the land?				
Geographic description				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building? (Yes/No)	[ ], if Yes, *Attachment 2* includes the capacity building program			

Beneficiary: ***Signature:*** ***Date:***

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following:	**Activity**	**Status**	**Additional references**
	. Building rehabilitation	[ ] Yes [ ] No	See Section **B** below
	. New construction	[ ] Yes [ ] No	See Section **B** below
	. Individual wastewater treatment system	[ ] Yes [ ] No	See Section **C** below
	. Historic building(s) and districts	[ ] Yes [ ] No	See Section **D** below
	. Acquisition of land[45]	[ ] Yes [ ] No	See Section **E** below
	.Hazardous or toxic materials[46]	[ ] Yes [ ] No	See Section **F** below
	. Impacts on forests and/or protected areas	[ ] Yes [ ] No	See Section **G** below
	. Handling / management of medical waste	[ ] Yes [ ] No	See Section **H** below
	Traffic and Pedestrian Safety	[ ] Yes [ ] No	See Section **I** below

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
A. General Conditions	Notification and Worker Safety	The local construction and environment inspectorates and communities have been notified of upcoming activities The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) All legally required permits have been acquired for construction and/or rehabilitation All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. Workers will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
B. General Rehabilitation and /or	Air Quality	During interior demolition use debris-chutes above the first floor Keep demolition debris in controlled area and spray with water mist to reduce debris dust

[45] The project will support construction of new buildings only in the case when land acquisition is not necessary and there are no any resettlement issues; for such cases the investor should have the landownership title as well as has to prove the land at the moment of sub-projects application is not occupied or used even illegally

[46] Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
Construction Activities		Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site Keep surrounding environment (side walks, roads) free of debris to minimize dust There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
	Noise	Construction noise will be limited to restricted times agreed to in the permit During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible
	Water Quality	The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Construction waste will be collected and disposed properly by licensed collectors The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
C. Individual wastewater treatment system	Water Quality	The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment Monitoring of new wastewater systems (before/after) will be carried out
D. Historic building(s)	Cultural Heritage	If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and address all construction activities in line with local and national legislation Ensure that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds.
E. Acquisition of land	Land Acquisition	If expropriation of land was not expected and is required, or if loss of access to income or

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
	Plan/Framework	damage to assets of legal or illegal users of land was not expected but may occur, that the bank Task Team Leader is consulted. The approved by the Bank Land Acquisition Plan (if required by the project) will be implemented prior to start of project works.
F. Toxic Materials	Asbestos management	If asbestos is located on the project site, mark clearly as hazardous material When possible the asbestos will be appropriately contained and sealed to minimize exposure The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust Asbestos will be handled and disposed by skilled & experienced professionals If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately The removed asbestos will not be reused
	Toxic / hazardous waste management	Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching The wastes are transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used
G. Affects forests and/or protected areas	Protection	All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.

Environmental Monitoring Plan (Example)

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in project budget)	**Who** (Is responsible for monitoring?)
During activity preparation	site access traffic management availability of waste disposal facilities hazardous waste inventory (asbestos) construction material quality control (eg. paints / solvents)	at the site at the site in site vicinity on site Contractor's store / building yard	check if design and project planning foresee diligent procedures visual / analytical if in doubt visual / research in toxic materials databases	before launch of construction before start of rehabilitation works before approval to use materials	safety of general public, timely detection of waste disposal bottlenecks public and workplace health and safety	marginal, within budget marginal, within budget; (prepare special account for analyses at PIU)	Contractor, Engineer
During activity supervision	dust generation noise emissions waste and wastewater types, quality and volumes surface drainage soundness	on site and in immediate neighborhood, close to potential impacted residents at discharge points or in storage facilities	visual consultation of locals visual, analytical if suspicious count of waste transports off site, check flow rates and runoff	daily daily daily / continuous	avoidance of public nuisance avoidance of negative impacts on ground/ surface waters ensuring proper waste	marginal, within budget	Contractor, Engineer

			routes for wastewater	daily / continuous	management and disposal		

PART 4: MONITORING PLAN (EXEMPLARY, TO BE EXPANDED AS NEEDED)

Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in project budget)	**Who** (Is responsible for monitoring?)
During activity preparation	site access traffic management availability of waste disposal facilities hazardous waste inventory (asbestos) construction material quality control (eg. paints / solvents)	at the site at the site in site vicinity on site Contractor's store / building yard	check if design and project planning foresee diligent procedures visual / analytical if in doubt visual / research in toxic materials databases	before launch of construction before start of rehabilitation works before approval to use materials	safety of general public, timely detection of waste disposal bottlenecks public and workplace health and safety	marginal, within budget marginal, within budget; (prepare special account for analyses at PIU)	Contractor, Engineer
During activity supervision	dust generation noise emissions waste and wastewater types, quality and volumes	on site and in immediate neighborhood, close to potential impacted residents at discharge points or in storage facilities	visual consultation of locals visual, analytical if suspicious count of waste transports off site, check	daily daily daily / continuous	avoidance of public nuisance avoidance of negative impacts on ground/ surface waters	marginal, within budget	Contractor, Engineer

	surface drainage soundness		flow rates and runoff routes for wastewater	daily / continuous	ensuring proper waste management and disposal		

11. ANNEX. ENVIRONMENTAL SCREENING CHECKLIST FORMS

Form 1 *(to be completed by Sub-project beneficiary)*

1. **Project Name:**

2. **Brief Description of sub-project** to include: nature of the project, project cost, physical size, site area, location, property ownership, existence of on-going operations, plans for expansion or new construction.

3. **Will the project have impacts on the environmental parameters** listed below during the construction or operational phases? Indicate, with a check, during which phase impacts will occur and whether mitigation measures are required.

Environmental Component	Construction Phase	Operational Phase	Mitigation Measures
Terrestrial environment			
Land & soil degradation: Will the project involve land excavation?			
Generation of solid wastes, including toxic wastes?			
Soil and underground water pollution			
Air quality			
Will the project provide pollutant emissions?			
Aquatic environment			
Water Quantity: will the project involve water use?			
Water Quality / Pollution: Will the project contribute to surface water pollution			
Socio-economic environment			
Will the project assure non-deterioration of human health, occupational safety and non-disturbance of residents living near project area?			
Does the project require public consultation to consider local people environmental concerns and inputs?			
Social impacts			

Signed:

MDU member _____ _____

full name *signature*

FPs _____ _____

full name *signature*

QEs _____ _____

full name *signature*

Form 2 *(to be completed by the Regional SS based on the findings of the environmental screening process)*

1. Sub-project Environmental Category (A, B or C)_____ (if project is categorized as A, no needs to fill next paras – sub-project could not be included into the project)

2. Is project activities will be implemented:
a) in or near sensitive and valuable ecosystems — wetlands, wild lands, and habitat of endangered species - ____(yes or no)
b) in or near areas with archaeological and/or historical sites or existing cultural and social institutions - ____(yes or no)
c) in densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities - ____(yes or no)
d) in regions subject to heavy development activities or where there are conflicts in natural resource allocation; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils) - ____(yes or no)
If any "yes" - the sub-project will be excluded from the Program

3 Environmental Assessment required (yes or no) _____ (the next paras have to be filled only for category B sub-projects)

3. Types of required EA documents (circle round the required):

a) partial ESIA, including site assessment and Environmental and Social Management Plan (ESMP) for Category B sub-projects;
b) Environmental and Social Management Plan for small scale Category B sub-projects;
c) ESMP checklists for small scale Category B sub-projects;
d) Draft Environmental Impacts Statement (for categories 2-4 (Uzbek) sub-projects)
e) Statement on Environmental Consequences (only for category 2-3 (Uzbek) sub-projects)

4. What environmental and social issues are raised by the sub-project?
_____
_____

10. If an environmental and social impact assessment is required, what are the specific issues to be addressed?
_____
_____

11. What is the time frame and estimated cost of conducting the ESIA? _____
_____

Conclusion (could the sub-project be included in the program and if yes, under which conditions):
_____
_____

Regional ESS specialist : **Date:**

Form 3: Field site visit checklist

Project Name: **Date/time of Visit:**
District: **Visitors:**

Current activity and site history

- Who is the site contact (name, position, contact information)?
- What is the area of the site to be used for project activities?
- What are current users of the site?
- What were previous uses of the site (give dates if possible)?
- Are there any encroachers or illegal users of the site whose livelihoods or assets are going to be affected by the project?

Environmental Situation

- Are there sensitive sites nearby (nature reserves, cultural sites, historical landmarks)?
- Are there water courses on the site?
- What is the terrain or slope?
- Does the site experience flooding, waterlogging or landslides? Are there signs of erosion?
- What are the neighboring buildings (e.g. schools, dwellings, industries) and land uses? Estimate distances.
- Will the proposed site affect transportation or public utilities?

Licenses, Permits and Clearances

- Does the site require licenses or permits to operate the type of activity proposed? Are these available for inspection?
- What environmental or other (e.g., health, forestry) authorities have jurisdiction over the site?

Water Quality Issues

- Does the proposed activity use water for any purposes (give details and estimate quantity). What is the source?
- Will the proposed activity produce any effluent? (estimate quantity and identify discharge point)
- Is there a drainage system on site for surface waters or sewage? Is there a plan available of existing drainage or septic systems?
- How waste water is managed (surface water courses, dry wells, septic tanks)?

Soils

- What is the ground surface (agricultural land, pasture, etc.)?
- Will the project damage soils during construction or operations?
- Will the project affect the landscape significantly (draining wetlands, changing stream courses)

Biological environment

- Describe vegetation cover on the site.
- Is there information about rare or threatened flora and fauna at or near the site? If yes, would the project have an impact or increase risk to the species?
- Obtain a list of vertebrate fauna and common plants of the site (if available).
- Note potential negative impacts on biota if project proceeds.

Visual Inspection Procedures

- Try to obtain a site map or make a sketch to mark details.
- Take photos, if permitted.
- Walk over as much of the site as possible, including boundaries, to note adjacent activities.
- Note any odors, smoke or visual dust emissions, standing water, etc.

Regional ESS specialist : **Date:**

Form 4: Final Environmental Assessment Checklist (1)

(to be completed by the PIU based on review of the mitigation proposed and the environmental impact assessment (if required))

Was an Environmental and Social Impact Assessment needed? (Y or N) ___ If yes, was it done? ___

Was an Environmental and Social Management Plan prepared? (Y or N) _____

Are the mitigation measures to be included in project implementation adequate and appropriate? (Y or N) _____

Will the project comply with existing pollution control standards for emissions and wastes? (Y or N) _____ If No, will an exemption be sought? _____ _____

Is an Environmental Monitoring Plan necessary? (Y or N) ___ If so, has it been prepared? (Y or N) ___ Approved by the PIU? _____

What follow-up actions are required by the proponent, the RPCU and PIU? _____
_____
_____
_____

Were public consultations held concerning potential environmental impacts of the proposed sub-project? (Y or N) _____ Were minutes recorded? (Y or N)_____

Dates Participants
_____ _____
_____ _____
_____ _____

ES specialist: **Date:**

Form 5. Final Environmental Assessment Checklist (2)

(to be completed by the PIU based on review of the mitigation proposed and the environmental and social impact assessment (if required))

Is the project documentation complete? If not, what is missing?

Are land use and resource use permits required? If so have they been received?

Are discharge permits required for solid waste? If so have they been received?

Are discharge permits required for wastewater discharge? If so have they been received?

Is there a sanitary inspection required? Has a permit been issued?

Has the environmental assessment been received and approved?

Is there potential for soil degradation or contamination? If yes, have appropriate prevention or mitigation measures been planned and budgeted?

Is there potential for water quality degradation or contamination? If yes, have appropriate prevention or mitigation measures been planned and budgeted?

Is there potential for air quality degradation or contamination? If yes, have appropriate prevention or mitigation measures been planned and budgeted?

Is there a threat to the biological environment? If yes, have appropriate prevention or mitigation measures been planned and budgeted?

Is there potential for adverse impacts on the social environment? If yes, are there necessary prevention, mitigation or compensation measures planned and budgeted?

Was the level of public involvement in design and planning and public consultation sufficient? Were public concerns raised in the consultation process adequately addressed?

What is the desired level, frequency and scope of environmental monitoring during the construction phase?

What is the desired level, frequency and scope of environmental monitoring during the operational phase

ES specialist: **Date:**

12. ANNEX. Public Consultation Minutes

Venue: Gulistan city hokimiyat's administrative building, Sirdarya province

Date: 27th of august 2019

"Prosperous Villages" Project

Public Consultations: Environmental and Social Management Framework and Resettlement Policy Framework

Prepared by: "Eco standard" consulting company, World Bank, Project Implementation Unit "Prosperous Villages"

Presented by: Boburhon Mirbabev, Ilhom Ruziyev, Munojat Muradova

Participated: Representatives from World Bank, specialist PIU, Sirdarya and Namangan province hokimiyat**,** regional and local authorities (specialists from Regional Department for ecology and nature protection, Department of employment and labor relations, Department of communal services, Regional Department of construction, Regional Department for land resources, geodesy, cartography and state cadaster, Regional Single Engineering Companies, Regional Center for Sanitary -Epidemiologic Surveillance, Regional Department of Women's committee, Regional Department of Youth Union, Regional Federation of Trade Unions and Mahalla Citizens' Assembly Chairs, e.t.c.)

Discussed main topics on the Public Consultations:

Project description and its components-subcomponents, development objectives; amount of financing, types of investments, project location (regions); ehe scope and objectives of Environmental and Social Management Framework, project's potential environmental and social impacts; national environmental policy, legislations, normative documents and requirements for environmental and social assessment; world bank safeguards policies and their requirements, it's categories and screening; comparison of national and World Bank requirements for environmental assessment; applicable environmental standards; social economic characteristics; land acquisition and involuntary resettlement; gender, citizen engagement and labor; social process for screening, preparing and approving raps and reputational risks

After the presentation, there were some questions from the participants:

Questions	Answers
How will payment be made to contractors?	Payment will produce the PIU directly to the contractor
How will contractors be determined for construction and installation work?	The contractor will be determined by the results of the Republican tenders
Is there a new construction of social facilities?	New construction is not provided, if necessary, can be further built extension
How an environmental expertise will carry out ? For the area as a whole or for each village separately?	Ecological expertise will be carried out in each villages

Suggestions Raised: Use solar panels for street lighting, build a library near the MCA building.

Venue: Namangan city hokimiyat's administrative building, Namangan province

Date: 28th of august 2019

After the presentation, there were some questions from the participants:

Questions	Answers
Who will be responsible for violations of environmental and social requirements?	Contractor will be responsible for violations.
Will there be a local drainage system in the villages covered by the project?	If there is an existing drainage system in the villages within the project, it can be upgraded.
Will this project involve citizen to work or help to construction works?	The project does not provide employment, as the project is aimed at improving the infrastructure of villages
Does the project provide for the reconstruction of markets	The project does not provide for the reconstruction and construction of markets

Suggestions Raised: N/A

Venue: Ministry of Economy and Industry of Republic of Uzbekistan administrative building, Tashkent city

Date: 29th of august 2019

After the presentation, there were some questions from the participants:

Questions	Answers
Who will be the customer for the construction and installation works?	It is planned that the customer for construction and installation work will be the engineering company "single customer Service" of the Regional hokimiyat
according to which norms Contractors will be determined?	Contractors will be determined based on the results of tenders under the Law of the Republic of Uzbekistan “On Public Procurement” adopted on April 9, 2018, № ЗРУ -472.
What are the deadlines of the project?	It is planned that the project implementation period will be 5 years (2020-2024).
For example, how much is the amount of allocated funds of the Namangan region?	As the preparatory work for the project is currently under way, the amount of funds allocated has not been determined. The amount allocated to the areas will be determined after the approval of the feasibility study of the project.
Do you guarantee that a demolition of citizen’s houses will not happen?	This project will not do demolition of houses, no at all.

Suggestions Raised: create public places for village citizens (parks and squares, playgrounds).

13. ANNEX. COVID-19 CONSIDERATIONS IN CONSTRUCTION/CIVIL WORKS

This note was issued on April 7, 2020 and includes links to the latest guidance as of this date (e.g. from WHO). Given the COVID-19 situation is rapidly evolving, when using this note it is important to check whether any updates to these external resources have been issued.

1. INTRODUCTION

The COVID-19 pandemic presents Governments with unprecedented challenges. Addressing COVID-19 related issues in both existing and new operations starts with recognizing that this is not business as usual and that circumstances require a highly adaptive responsive management design to avoid, minimize and manage what may be a rapidly evolving situation. In many cases, we will ask Borrowers to use reasonable efforts in the circumstances, recognizing that what may be possible today may be different next week (both positively, because more supplies and guidance may be available, and negatively, because the spread of the virus may have accelerated).

This interim note is intended to provide guidance to teams on how to support Borrowers in addressing key issues associated with COVID-19 and consolidates the advice that has already been provided over the past month. As such, it should be used in place of other guidance that has been provided to date. This note will be developed as the global situation and the Bank's learning (and that of others) develops. This is not a time when 'one size fits all'. More than ever, teams will need to work with Borrowers and projects to understand the activities being carried out and the risks that these activities may entail. Support will be needed in designing mitigation measures that are implementable in the context of the project. These measures will need to consider capacity of the Government agencies, availability of supplies and the practical challenges of operations on-the-ground, including stakeholder engagement, supervision and monitoring. In many circumstances, communication itself may be challenging, where face-to-face meetings are restricted or prohibited, and where IT solutions are limited or unreliable.

This note emphasizes the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination, and the need for high levels of responsiveness in a changing environment. It recommends assessing the current situation of the project, putting in place mitigation measures to avoid or minimize the chance of infection, and planning what to do if either project workers become infected or the work force includes workers from proximate communities affected by COVID-19. In many projects, measures to avoid or minimize will need to be implemented at the same time as dealing with sick workers and relations with the community, some of whom may also be ill or concerned about infection. Borrowers should understand the obligations that contractors have under their existing contracts (see Section 3), require contractors to put in place appropriate organizational structures (see Section 4) and develop procedures to address different aspects of COVID-19 (see Section 5).

2. CHALLENGES WITH CONSTRUCTION/CIVIL WORKS

Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. The work force may comprise workers from international, national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different contractors

permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, food, and water). As such there will also be regular flow of parties entering and exiting the site; support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, have implications for local emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

3. DOES THE CONSTRUCTION CONTRACT COVER THIS SITUATION?

Given the unprecedented nature of the COVID-19 pandemic, it is unlikely that the existing construction/civil works contracts will cover all the things that a prudent contractor will need to do. Nevertheless, the first place for a Borrower to start is with the contract, determining what a contractor's existing obligations are, and how these relate to the current situation.

The obligations on health and safety will depend on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors). It will differ if the Borrower used the World Bank's standard procurement documents (SPDs) or used national bidding documents. If a FIDIC document has been used, there will be general provisions relating to health and safety. For example, the standard FIDIC, Conditions of Contract for Construction (Second Edition 2017), which contains no 'ESF enhancements', states (in the General Conditions, clause 6.7) that the Contractor will be required:

• to take all necessary precautions to maintain the health and safety of the Contractor's Personnel
• to appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents
• to ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are always available at the site and at any accommodation
• to ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics

These requirements have been enhanced through the introduction of the ESF into the SPDs (edition dated July 2019). The general FIDIC clause referred to above has been strengthened to reflect the requirements of the ESF. Beyond FIDIC's general requirements discussed above, the Bank's Particular Conditions include a number of relevant requirements on the Contractor, including:

• to provide health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities)
• to put in place workplace processes for Contractor's Personnel to report work situations that are not safe or healthy
• gives Contractor's Personnel the right to report work situations which they believe are not safe or healthy, and to remove themselves from a work situation which they have a reasonable justification to believe presents an imminent and serious danger to their life or health (with no reprisal for reporting or removing themselves)
• requires measures to be in place to avoid or minimize the spread of diseases including measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent contract-related labor
• to provide an easily accessible grievance mechanism to raise workplace concerns

Where the contract form used is FIDIC, the Borrower (as the Employer) will be represented by the Engineer (also referred to in this note as the Supervising Engineer). The Engineer will be authorized to exercise authority specified in or necessarily implied from the construction contract. In such cases, the Engineer (through its staff on site) will be the interface between the PIU and the Contractor. It is important therefore to understand the scope of the Engineer's responsibilities. It is also important to recognize that in the case of infectious diseases such as COVID-19, project management – through the Contractor/subcontractor hierarchy – is only as effective as the weakest link. A thorough review of management procedures/plans as they will be implemented through the entire contractor hierarchy is important. Existing contracts provide the outline of this structure; they form the basis for the Borrower to understand how proposed mitigation measures will be designed and how adaptive management will be implemented, and to start a conversation with the Contractor on measures to address COVID-19 in the project.

4. WHAT PLANNING SHOULD THE BORROWER BE DOING?

Task teams should work with Borrowers (PIUs) to confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Suggestions on how to do this are set out below:
• The PIU, either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks. As stated in Section 3, the construction contract should include health and safety requirements, and these can be used as the basis for identification of, and requirements to implement, COVID-19 specific measures. The measures may be presented as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. The measures may be reflected in revisions to the project's health and safety manual. This request should be made in writing (following any relevant procedure set out in the contract between the Borrower and the contractor).
• In making the request, it may be helpful for the PIU to specify the areas that should be covered. This should include the items set out in Section 5 below and take into account current and relevant guidance provided by national authorities, WHO and other organizations. See the list of references in the Annex to this note.
• The PIU should require the Contractor to convene regular meetings with the project health and safety specialists and medical staff (and where appropriate the local health authorities), and to take their advice in designing and implementing the agreed measures.

• Where possible, a senior person should be identified as a focal point to deal with COVID-19 issues. This can be a work supervisor or a health and safety specialist. This person can be responsible for coordinating preparation of the site and making sure that the measures taken are communicated to the workers, those entering the site and the local community. It is also advisable to designate at least one back-up person, in case the focal point becomes ill; that person should be aware of the arrangements that are in place.
• On sites where there are a number of contractors and therefore (in effect) different work forces, the request should emphasize the importance of coordination and communication between the different parties. Where necessary, the PIU should request the main contractor to put in place a protocol for regular meetings of the different contractors, requiring each to appoint a designated staff member (with back up) to attend such meetings. If meetings cannot be held in person, they should be conducted using whatever IT is available. The effectiveness of mitigation measures will depend on the weakest implementation, and therefore it is important that all contractors and sub-contractors understand the risks and the procedure to be followed.
• The PIU, either directly or through the Supervising Engineer, may provide support to projects in identifying appropriate mitigation measures, particularly where these will involve interface with local services, in particular health and emergency services. In many cases, the PIU can play a valuable role in connecting project representatives with local Government agencies, and helping coordinate a strategic response, which takes into account the availability of resources. To be most effective, projects should consult and coordinate with relevant Government agencies and other projects in the vicinity.
• Workers should be encouraged to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

5. WHAT SHOULD THE CONTRACTOR COVER?

The Contractor should identify measures to address the COVID-19 situation. What will be possible will depend on the context of the project: the location, existing project resources, availability of supplies, capacity of local emergency/health services, the extent to which the virus already exist in the area. A systematic approach to planning, recognizing the challenges associated with rapidly changing circumstances, will help the project put in place the best measures possible to address the situation. As discussed above, measures to address COVID-19 may be presented in different ways (as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures). PIUs and contractors should refer to guidance issued by relevant authorities, both national
and international (e.g. WHO), which is regularly updated (see sample References and links provided in the Annex).

Addressing COVID-19 at a project site goes beyond occupational health and safety and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. Where appropriate given the project context, a designated team should be established to address COVID-19 issues, including PIU representatives, the Supervising Engineer, management (e.g. the project manager) of the contractor and sub-contractors, security, and medical and OHS professionals. Procedures should be clear and straightforward, improved as necessary, and supervised and monitored by the COVID-19 focal

point(s). Procedures should be documented, distributed to all contractors, and discussed at regular meetings to facilitate adaptive management. The issues set out below include a number that represent expected good workplace management but are especially pertinent in preparing the project response to COVID-19.

(a) ASSESSING WORKFORCE CHARACTERISTICS

Many construction sites will have a mix of workers e.g. workers from the local communities; workers from a different part of the country; workers from another country. Workers will be employed under different terms and conditions and be accommodated in different ways. Assessing these different aspects of the workforce will help in identifying appropriate mitigation measures:

• The Contractor should prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations (e.g. 4 weeks on, 4 weeks off).

• This should include a breakdown of workers who reside at home (i.e. workers from the community), workers who lodge within the local community and workers in on-site accommodation. Where possible, it should also identify workers that may be more at risk from COVID-19, those with underlying health issues or who may be otherwise at risk.

• Consideration should be given to ways in which to minimize movement in and out of site. This could include lengthening the term of existing contracts, to avoid workers returning home to affected areas, or returning to site from affected areas.

• Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.

• Consideration should be given to requiring workers lodging in the local community to move to site accommodation (subject to availability) where they would be subject to the same restrictions.

• Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.

(b) ENTRY/EXIT TO THE WORK SITE AND CHECKS ON COMMENCEMENT OF WORK

Entry/exit to the work site should be controlled and documented for both workers and other parties, including support staff and suppliers. Possible measures may include:

• Establishing a system for controlling entry/exit to the site, securing the boundaries of the site, and establishing designating entry/exit points (if they do not already exist). Entry/exit to the site should be documented.

• Training security staff on the (enhanced) system that has been put in place for securing the site and controlling entry and exit, the behaviors required of them in enforcing such system and any COVID - 19 specific considerations.

• Training staff who will be monitoring entry to the site, providing them with the resources they need to document entry of workers, conducting temperature checks and recording details of any worker that is denied entry.

• Confirming that workers are fit for work before they enter the site or start work. While procedures should already be in place for this, special attention should be paid to workers with underlying health issues or who may be otherwise at risk. Consideration should be given to demobilization of staff with underlying health issues.

• Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.
• Providing daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures, using demonstrations and participatory methods.
• During the daily briefings, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.
• Preventing a worker from an affected area or who has been in contact with an infected person from returning to the site for 14 days or (if that is not possible) isolating such worker for 14 days.
• Preventing a sick worker from entering the site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days.

(c) GENERAL HYGIENE

Requirements on general hygiene should be communicated and monitored, to include:
• Training workers and staff on site on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms (for further information see WHO COVID-19 advice for the public).
• Placing posters and signs around the site, with images and text in local languages.
• Ensuring handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places throughout site, including at entrances/exits to work areas; where there is a toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces. Where handwashing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.
• Review worker accommodations and assess them considering the requirements set out in IFC/EBRD guidance on Workers' Accommodation: processes and standards, which provides valuable guidance as to good practice for accommodation.
• Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected (see paragraph (f)).

(d) CLEANING AND WASTE DISPOSAL

Conduct regular and thorough cleaning of all site facilities, including offices, accommodation, canteens, common spaces. Review cleaning protocols for key construction equipment (particularly if it is being operated by different workers). This should include:
• Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.
• Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
• Where it is anticipated that cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, providing them with appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face screens) and boots or closed work shoes. If appropriate PPE is not available, cleaners should be provided with best available alternatives.
• Training cleaners in proper hygiene (including handwashing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).

• Any medical waste produced during the care of ill workers should be collected safely in designated containers or bags and treated and disposed of following relevant requirements (e.g., national, WHO). If open burning and incineration of medical wastes is necessary, this should be for as limited a duration as possible. Waste should be reduced and segregated, so that only the smallest amount of waste is incinerated (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19).

(e) ADJUSTING WORK PRACTICES

Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule. Such measures could include:
• Decreasing the size of work teams.
• Limiting the number of workers on site at any one time.
• Changing to a 24-hour work rotation.
• Adapting or redesigning work processes for specific work activities and tasks to enable social distancing, and training workers on these processes.
• Continuing with the usual safety trainings, adding COVID-19 specific considerations. Training should include proper use of normal PPE. While as of the date of this note, general advice is that construction workers do not require COVID-19 specific PPE, this should be kept under review (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
• Reviewing work methods to reduce use of construction PPE, in case supplies become scarce or the PPE is needed for medical workers or cleaners. This could include, e.g. trying to reduce the need for dust masks by checking that water sprinkling systems are in good working order and are maintained or reducing the speed limit for haul trucks.
• Arranging (where possible) for work breaks to be taken in outdoor areas within the site.
• Consider changing canteen layouts and phasing mealtimes to allow for social distancing and phasing access to and/or temporarily restricting access to leisure facilities that may exist on site, including gyms.
• At some point, it may be necessary to review the overall project schedule, to assess the extent to which it needs to be adjusted (or work stopped completely) to reflect prudent work practices, potential exposure of both workers and the community and availability of supplies, taking into account Government advice and instructions.

(f) PROJECT MEDICAL SERVICES

Consider whether existing project medical services are adequate, considering existing infrastructure (size of clinic/medical post, number of beds, isolation facilities), medical staff, equipment and supplies, procedures and training. Where these are not adequate, consider upgrading services where possible, including:
• Expanding medical infrastructure and preparing areas where patients can be isolated. Guidance on setting up isolation facilities is set out in WHO interim guidance on considerations for quarantine of individuals in the context of containment for COVID-19). Isolation facilities should be located away from worker accommodation and ongoing work activities. Where possible, workers should be provided with a single well-ventilated room (open windows and door). Where this is not possible, isolation facilities should allow at least 1 meter between workers in the same room, separating workers with curtains, if possible. Sick workers should limit their movements, avoiding common areas and facilities and not be allowed visitors until they have been clear of symptoms for 14 days. If they need

to use common areas and facilities (e.g. kitchens or canteens), they should only do so when unaffected workers are not present and the area/facilities should be cleaned prior to and after such use.
• Training medical staff, which should include current WHO advice on COVID-19 and recommendations on the specifics of COVID-19. Where COVID-19 infection is suspected, medical providers on site should follow WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected.
• Training medical staff in testing, if testing is available.
• Assessing the current stock of equipment, supplies and medicines on site, and obtaining additional stock, where required and possible. This could include medical PPE, such as gowns, aprons, medical masks, gloves, and eye protection. Refer to WHO guidance as to what is advised (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
• If PPE items are unavailable due to world-wide shortages, medical staff on the project should agree on alternatives and try to procure them. Alternatives that may commonly be found on constructions sites include dust masks, construction gloves and eye goggles. While these items are not recommended, they should be used as a last resort if no medical PPE is available.
• Ventilators will not normally be available on work sites, and in any event, intubation should only be conducted by experienced medical staff. If a worker is extremely ill and unable to breathe properly on his or her own, they should be referred immediately to the local hospital (see (g) below).
• Review existing methods for dealing with medical waste, including systems for storage and disposal (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19, and WHO guidance on safe management of wastes from health-care activities).

(g) LOCAL MEDICAL AND OTHER SERVICES

Given the limited scope of project medical services, the project may need to refer sick workers to local medical services. Preparation for this includes:
• Obtaining information as to the resources and capacity of local medical services (e.g. number of beds, availability of trained staff and essential supplies).
• Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred.
• Considering ways in which the project may be able to support local medical services in preparing for members of the community becoming ill, recognizing that the elderly or those with pre-existing medical conditions require additional support to access appropriate treatment if they become ill.
• Clarifying the way in which an ill worker will be transported to the medical facility and checking availability of such transportation.
• Establishing an agreed protocol for communications with local emergency/medical services.
• Agreeing with the local medical services/specific medical facilities the scope of services to be provided, the procedure for in-take of patients and (where relevant) any costs or payments that may be involved.
• A procedure should also be prepared so that project management knows what to do in the unfortunate event that a worker ill with COVID-19 dies. While normal project procedures will continue to apply, COVID-19 may raise other issues because of the infectious nature of the disease. The project should liaise with the relevant local authorities to coordinate what should be done, including any reporting or other requirements under national law.

(h) INSTANCES OR SPREAD OF THE VIRUS

WHO provides detailed advice on what should be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus (for further information see WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected). The project should set out risk-based procedures to be followed, with differentiated approaches based on case severity (mild, moderate, severe, critical) and risk factors (such as age, hypertension, diabetes) (for further information see WHO interim guidance on operational considerations for case management of COVID-19 in health facility and community). These may include the following:

• If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on site.
• If testing is available on site, the worker should be tested on site. If a test is not available at site, the worker should be transported to the local health facilities to be tested (if testing is available).
• If the test is positive for COVID-19 or no testing is available, the worker should continue to be isolated. This will either be at the work site or at home. If at home, the worker should be transported to their home in transportation provided by the project.
• Extensive cleaning procedures with high-alcohol content disinfectant should be undertaken in the area where the worker was present, prior to any further work being undertaken in that area. Tools used by the worker should be cleaned using disinfectant and PPE disposed of.
• Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and be required to quarantine themselves for 14 days, even if they have no symptoms.
• Family and other close contacts of the worker should be required to quarantine themselves for 14 days, even if they have no symptoms.
• If a case of COVID-19 is confirmed in a worker on the site, visitors should be restricted from entering the site and worker groups should be isolated from each other as much as possible.
• If workers live at home and has a family member who has a confirmed or suspected case of COVID-19, the worker should quarantine themselves and not be allowed on the project site for 14 days, even if they have no symptoms.
• Workers should continue to be paid throughout periods of illness, isolation or quarantine, or if they are required to stop work, in accordance with national law.
• Medical care (whether on site or in a local hospital or clinic) required by a worker should be paid for by the employer.

(i) CONTINUITY OF SUPPLIES AND PROJECT ACTIVITIES

Where COVID-19 occurs, either in the project site or the community, access to the project site may be restricted, and movement of supplies may be affected.

• Identify back-up individuals, in case key people within the project management team (PIU, Supervising Engineer, Contractor, sub-contractors) become ill, and communicate who these are so that people are aware of the arrangements that have been put in place.
• Document procedures, so that people know what they are, and are not reliant on one person's knowledge.
• Understand the supply chain for necessary supplies of energy, water, food, medical supplies and cleaning equipment, consider how it could be impacted, and what alternatives are available. Early pro-active review of international, regional and national supply chains, especially for those supplies that are critical for the project, is important (e.g. fuel, food, medical, cleaning and other essential supplies). Planning for a 1-2 month interruption of critical goods may be appropriate for projects in more remote areas.

• Place orders for/procure critical supplies. If not available, consider alternatives (where feasible).
• Consider existing security arrangements, and whether these will be adequate in the event of interruption to normal project operations.
• Consider at what point it may become necessary for the project to significantly reduce activities or to stop work completely, and what should be done to prepare for this, and to re-start work when it becomes possible or feasible.

(j) TRAINING AND COMMUNICATION WITH WORKERS

Workers need to be provided with regular opportunities to understand their situation, and how they can best protect themselves, their families and the community. They should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing them.
• It is important to be aware that in communities close to the site and amongst workers without access to project management, social media is likely to be a major source of information. This raises the importance of regular information and engagement with workers (e.g. through training, town halls, tool boxes) that emphasizes what management is doing to deal with the risks of COVID-19. Allaying fear is an important aspect of work force peace of mind and business continuity. Workers should be given an opportunity to ask questions, express their concerns, and make suggestions.
• Training of workers should be conducted regularly, as discussed in the sections above, providing workers with a clear understanding of how they are expected to behave and carry out their work duties.
• Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work.
• Training should cover all issues that would normally be required on the work site, including use of safety procedures, use of construction PPE, occupational health and safety issues, and code of conduct, taking into account that work practices may have been adjusted.
• Communications should be clear, based on fact and designed to be easily understood by workers, for example by displaying posters on handwashing and social distancing, and what to do if a worker displays symptoms.

(k) COMMUNICATION AND CONTACT WITH THE COMMUNITY

Relations with the community should be carefully managed, with a focus on measures that are being implemented to safeguard both workers and the community. The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. The project should set out risk-based procedures to be followed , which may reflect WHO guidance (for further information see WHO Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response). The following good practice should be considered:
• Communications should be clear, regular, based on fact and designed to be easily understood by community members.
• Communications should utilize available means. In most cases, face-to-face meetings with the community or community representatives will not be possible. Other forms of communication should be used; posters, pamphlets, radio, text message, electronic meetings. The means used should take into account the ability of different members of the community to access them, to make sure that communication reaches these groups.
• The community should be made aware of procedures put in place at site to address issues related to COVID-19. This should include all measures being implemented to limit or prohibit contact between

workers and the community. These need to be communicated clearly, as some measures will have financial implications for the community (e.g. if workers are paying for lodging or using local facilities). The community should be made aware of the procedure for entry/exit to the site, the training being given to workers and the procedure that will be followed by the project if a worker becomes sick.

• If project representatives, contractors or workers are interacting with the community, they should practice social distancing and follow other COVID-19 guidance issued by relevant authorities, both national and international (e.g. WHO).

6. EMERGENCY POWERS AND LEGISLATION

Many Borrowers are enacting emergency legislation. The scope of such legislation, and the way it interacts with other legal requirements, will vary from country to country. Such legislation can cover a range of issues, for example:

• Declaring a public health emergency
• Authorizing the use of police or military in certain activities (e.g. enforcing curfews or restrictions on movement)
• Ordering certain categories of employees to work longer hours, not to take holiday or not to leave their job (e.g. health workers)
• Ordering non-essential workers to stay at home, for reduced pay or compulsory holiday

Except in exceptional circumstances (after referral to the World Bank's Operations Environmental and Social Review Committee (OESRC)), projects will need to follow emergency legislation to the extent that these are mandatory or advisable. It is important that the Borrower understands how mandatory requirements of the legislation will impact the project. Teams should require Borrowers (and in turn, Borrowers should request Contractors) to consider how the emergency legislation will impact the obligations of the Borrower set out in the legal agreement and the obligations set out in the construction contracts. Where the legislation requires a material departure from existing contractual obligations, this should be documented, setting out the relevant provisions.

14. ANNEX. COVID-19 PREPAREDNESS REPORT TEMPLATE

COVID-19 RESPONSE report should follow the template format provided below. Make sure to provide breakdown between different subprojects, construction sites and/or contractors. Analyze discrepancies and assess their causes, as well as necessary adjustments.

Refer to guidance documents provided previously – COVID-19 Considerations on Construction Civil Works documents (Guidance for Borrower and Guidance for Contractor), Advisory Note on Contingency Planning for existing operations – for examples of mitigation measures/practices for COVID-19 spread prevention/containment etc.

GENERAL INFORMATION
Name of the project/subproject, Date of the report
Provide identifying information
Requirements/guidance on COVID-19 protection issued by the state authority of all levels
Provide information of legal framework on the issue, the date it became effective, both on national, regional and local (community) level
Brief description of activities/subprojects which are active, stalled or partially active
Describe level of activity for each project/subproject (PIU is operational in Client's premises; ongoing civil works on sites, etc.), as well as types of civil works (if ongoing) and number of workers on each site separately and for each subproject/contractor collectively

(a) ASSESSING WORKFORCE CHARACTERISTICS
Information on workers accommodation
For each subproject/contractor, provide information on how many workers live in workers camps, how many live in residential accommodations, hotels, etc.; how many live in their own private residences.
Transportation to/from work sites and for other work-related reasons
If workers need to commute to/from work sites from the place of residence, specify the type of transportation (public transport, own vehicle, arranged transportation by the Employer, etc.)

COVID-19 PREPAREDNESS/RESPONSE MEASURES
(b) Entry/exit to the work site and checks on commencement of work
Describe measures taken to secure entrance procedure and medical checks.
(c) General hygiene
Describe what are requirements on general hygiene applied for project-related workforce (both PIU and project workers) and how these requirements are communicated
(d) Cleaning and waste disposal
Provide review of cleaning protocols (including disinfection) for all site facilities, including offices, accommodation, canteens, common spaces, as well as key construction equipment.
(e) Adjusting work practices
Describe what changes to work processes and timings have been done to reduce or minimize contact between workers
(f) Project medical services
Provide assessment whether existing project medical services on site are adequate, taking into account existing infrastructure (size of medical post, number of beds, isolation facilities),

medical staff, equipment and supplies, procedures and training. If not, describe what measures have been taken to upgrade.
(g) Local medical and other services
Provide overview of resources and capacity of local medical services, what procedure is established for the event of ill workers needing to be referred. Availability of health facility nearby to refer the patient and agreement between the Contractor and the facility.
(h) Instances or spread of the virus
Describe what is planned to be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus
(i) Continuity of supplies and project activities
Assess if COVID-19 restriction will impact supply chains and what arrangement are in place to secure continuity of operation. Specify critical supplies.

(j) CONTINGENCY PLANNING FOR AN OUTBREAK
Measures to address COVID-19 may be presented in different ways – as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. Describe, how such measures are presented for each individual subproject/contractor and when such plan/procedures came into force.

AWARENESS AND COMMUNICATION
(k) Training and communication with workers
Workers should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing those prosedures. Provide description of awareness/preparedness building exercises (issue of specific work instructions, public announcements on medical check-ins procedures, access to health care center, etc.) for workforce.
(l) Communication and contact with the community
The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. Describe risk-based procedures to be followed for communication with local community stakeholders.
Grievance Redress Mechanism
Project-related GRM log needs to include additional column monitoring COVID-19 related complains/reports/grievances. Provide an update on number of COVID-related GRM log entries since last regular report.

(m) COVID-19 REPORTING
Number of COVID-19 cases – confirmed and suspected/under investigation
Provide information on project-related employees who are confirmed or suspected of being infected with COVID-19 virus: number, date of isolation, severity of the case. **No private information should be provided!**
Reporting arrangements
ESIRT requires outbreaks of diseases to be reported. PIU/Contractor should report an outbreak following the guidance in ESIRT for a 'Serious' incident. Borrower informed of any concerns or problems associated with providing care to infected workers on project sites, particularly if infection rate is approaching 50% of the workforce. Confirm, that these reporting requirements are accepted by the relevant/responsible staff within PIU/Contractor's organizational structure.

15. ANNEX. TEMPLATE TO BE USED AT THE COMMUNITY LEVEL FOR DOCUMENTING VOLUNTARY LAND DONATIONS DURING THE INITIAL STAGES OF SUB-PROJECT OR ACTIVITY IMPLEMENTATION

Format of land donation letter/statement/deed

1. Landowner(s) (name, address, occupation) (N.B.: Landowners may be individuals or communities)
2. Purpose and context of voluntary land donation
3. Duration of voluntary land donation
4. Title, status, address and dimensions (length, width and total area) of land to be voluntarily donated
5. Current use of land to be donated
6. Proportion of total land owned by landowner
7. Site map and photos of land to be donated
8. Names and dated signatures of landowner, of head of village, and of witnesses
9. Names and dated signatures of Board of Trustee members
10. Designation of record keeping procedures (ex: Local administration offices, Project Website, etc.)
11. Record of consultations with landowner(s)
12. Designation of disclosure procedures (ex: Notification on community information board, in community media, on Project Website, etc.)
13. Designation of applicable grievance mechanism(s)

16. ANNEX. OUTLINE FOR ABBREVIATED RESETTLEMENT ACTION PLAN

Abbreviations and Glossary

INTRODUCTION

Summary of project/sub project including location

Number of affected persons and how they will be impacted

Scope of the Abbreviated Resettlement Action Plan

The scope and level of detail in this ARAP includes:

i. Range of potential risks and impacts which the affected persons may be subjected to;
ii. Results of the socio-economic survey in the form of a clear social baseline;
iii. A description of consultation activities with those affected, and where relevant host communities;
iv. A description of compensation options and resettlement-assistance to be provided;
v. A description of the procedures for redress of grievances;
vi. Institutional responsibilities for implementation, including involvement of civil society organisation in monitoring the ARAP; and
vii. Timetable and budget, and sources of funds, agreed upon with the implementing agency.

BACKGROUND

Principles

This ARAP is consistent with the provisions of the resettlement policy framework (RPF). The key principles followed are:

[to reflect principles from RPF]

DETAILS OF THE ABBREVIATED RESETTLEMENT ACTION PLAN

Potential Risks and Impacts

Summary of scope of potential risks and impacts as result of displacement, including to displaced persons having titled land as well as those who do not have titles.

Results of Census Survey of Displaced Persons and Survey and valuation of .

This section should provide summary information on:

- aggregated socioeconomic survey of displaced persons and their households, the main emphasis shall be given to identify vulnerable persons and households and those who livelihood may adversely affected due to the risks and impacts.
- identify any vulnerable persons or households and persons households that may need support.
- details of assets and resources that will be impacted and valuation of those assets, including how the valuation was undertaken and by whom.

Consultation with the Affected and Host Communities

This section should provide a summary of consultations undertaken with those affected, and where relevant host communities, including key concerns, suggestions, considerations of alternatives, etc, as well as any relevant information provided during the census survey, and how they are addressed.

Details of the consultations should be appended in an annex.

Compensation Options and Other Resettlement Assistance.

This section should provide details of:

- the methodology of determination of compensation. (Is it in compliance with entitlement matrix provided in RPF? Is it based on the calculations of the local Hokimiyat or other state entities?)
- short analysis of applied decrees and other legal documents applied in calculation of compensation.
- details of costs of compensation options made available displaced persons. If the compensation to be provided is not in line with provisions in the RPF then include the justification.
- details of any additional support or resettlement assistance to be provided to address any issues of vulnerability or disproportionate impacts.

Procedure for Resolving Grievances

This section should provide information:

- information shared about raising and registering complaints.
- process for resolving grievances for receiving, registering, resolving, recording and communicating and reporting.

Institutional Responsibility for Implementation and Monitoring.

This section should include:

- key stakeholders including any civil society organizations that will be involved in the implementation of ARAP and monitoring.
- the process for monitoring on ARAP implementation.
- how the main responsible social safeguards specialist officer in PIU and in regions will work together. In addition to PIU staff, who else will be involved in monitoring? (mahalla activist, facilitators?).

Timetable and Budget.

The timetable should be realistic and implementable and also provide information of the timing, so as to minimize impact, avoid disruption, take into consideration any seasonality, harvesting, etc.

Budget that covers both compensation and resettlement assistance.

CONCLUSION

ANNEXES

records of consultations.