

**MINISTRY OF HEALTH
THE REPUBLIC OF UZBEKISTAN**

**IMPROVEMENT OF THE EMERGENCY MEDICAL SERVICES
PROJECT
(HEALTH-4)**

**ENVIRONMENTAL MANAGEMENT PLAN
Framework Document**



Prepared by Independent Consultant

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Abbreviations

ADB	Asian Development Bank
CPIB	Central Project Implementation Bureau
EA	Environmental Assessment
EMP	Environmental Management Plan
Goskomecology	State Committee for Ecology and Environmental Protection
GP	General Practitioner
HF	Health Facility
IBRD	International Bank for Reconstruction and Development
MOH	Ministry of Health of Republic of Uzbekistan
NCD	Non-Communicable Diseases
NGO	Non-governmental Organization
PHC	Primary Health Care
RCM	Resolution of Cabinet of Ministers
RCSES	Republican Center of Sanitarian Epidemiological Supervision
RMU	Rayon Medical Union
RUz	Republic of Uzbekistan
SanPiN	Sanitarian Rules and Norms
SES	Sanitarian Epidemiological Station
SVP	Rural Medical Center (Russian acronym for <i>Selskiy Vrachebniy Punkt</i>)
WB	World Bank
WHO	World Health Organization

Introduction

According to the State Program of the Republic of Uzbekistan for public health system reforming, the modernization of health care structure is carried out in the Republic. On the basis of the President's Resolution #PP-2838 of March 16, 2017 "On measures of further strengthening of material-technical base and organization of activities of emergency medical aid system" and the President's Decree #UP-4985 of March 16, 2017 "On further improvement of emergency medical aid system", it is planned to improve the quality of services provided by the emergency medical care (EMC).

The reforms in the EMC are aimed at:

- Establishing a coordinated dispatch of the Republican Scientific Center of Emergency Medical Services (RSCEMS) and its territorial branches to receive and process emergency medical aid calls nation-wide;
- Retraining and professional development of medical and medium medical staff with modern and effective patient care approaches; and
- Introduction of modern medical equipment to ensure qualitative diagnostic examinations, primary medical-sanitary aid and treatment of emergency conditions aimed at preventing and reducing the rate of mortality and disability among the population.

According to the Project design, it is envisaged to implement the following five components:

1. EMS Enabling Environment, System Management and Quality Improvement.
2. Dispatch, communications and information systems
3. Pre-hospital emergency care system improvement
4. In-hospital emergency care system improvement
5. Project management.

The Component 3 and the Component 4 implementation can have a direct impact on the environment since (i) the Component 3 includes the supply of ambulances and equipment and may include the development of regional maintenance centers, (ii) the Component 4 will include the improvement of the operation of health facilities providing inpatient emergency medical care. Thus, both components may include partial reconstruction of buildings, which may bring to the formation of dust and noise, construction waste, the hazards associated with safety technology in construction. Meanwhile, the risks associated with the above work may be estimated as low ones because the potential consequences will be insignificant and will be limited to the site of construction. Such risks are usually easily controlled by applying safety rules in construction and keeping the construction site clean.

According to the environmental legislation of the Republic of Uzbekistan PKM 491, 2001, and to the World Bank's Operational Policy 4.01, based on the potential environmental impact, the Project was awarded the **Category B**.

The Project will be implemented in **175** sub-branches of the Republican Scientific Center of Emergency Medical Care, including the ones located in the Republic of Karakalpakstan.

The Projects "Health-1", "Health-2" and "Health-3" were successfully implemented based on the mutually beneficial cooperation between the Government of the Republic of Uzbekistan and the World Bank. This enabled RUz Government to improve the infrastructure and to outfit health facilities with modern equipment. A nationwide reforming of Primary

Health care was conducted in rural area; it was based on PHC facilities' per capita financing. The medical personnel from the reformed PHC facilities took extensive retraining on general practice/family medicine.

Concerning the issues associated with the construction and reconstruction of buildings, the above projects applied environmental assessment by the Environmental Management Plan (EMP) on the basis of the Environmental Questionnaire. This approach is also proposed for the Health-4 Project.

Executive Summary

With the participation of the World Bank, two projects (Health-1, Health-2) were implemented and the third project (Health-3) is nearing completion in Uzbekistan. The first two projects were aimed at supporting the development of services in the area of primary health care. The activities of the third project support the development of hospital care at the level of city and rayon medical unions. Within the framework of the "Health-3" project, the health facilities are provided with equipment, personnel is trained, public health services are perfected, and clinical quality and service management are improved. The Project implementation has a moderate impact on the environment. Framework Environmental Management Plan (FEMP) was developed for Health-3 project. The document presented the sample of the Environmental Management Plan (EMP) based on the Environmental Questionnaire. The EMP was included in the contractor's standard contract, thus being mandatory for construction work.

This Framework of Environmental Management Plan (FEMP) was developed within preparation of Health-4 Project. The document presents summary of project information with description of its components, objectives and tasks, brief review of Uzbekistan environmental legislation related to conducting of environmental assessment (EA), the procedure of EA for specific objects of construction and reconstruction within the framework of Health-4 Project.

Impacts of the construction phase will be typical for all medium scale rehabilitation/construction activities and limited to the project sites which are State owned land plots with user rights already granted to the medical institutions currently operating in these plots. Impacts of the operation phase will be typical for operating medical institutions.

Based on reviewed impacts on environment, the general Environmental Management Plan includes environmental protection measures for all stages of project implementation – pre-construction, construction and post-construction, i.e. at the stage of the sites operation. Recommended environmental protection measures meet the WB requirements, in particular WB Safeguard Policy OP 4.01 "Environmental Assessment" and national environmental legislation.

Roles and functions of the institutions and responsible persons involved in the process of the EMP implementation, monitoring and further control of respective environmental norms were defined.

Despite the fact that the Project does not include direct financing for improving the management of medical waste, the existing practice of handling medical waste in hospitals has been studied and problems related to this issue have been analyzed. It was identified that in 2015 a new document (SanPiN No. 0317-15 "Sanitary rules and norms for collection, storage and disposal of waste in medical and preventive treatment facilities of the Republic"), regulating the disposal of medical waste, came into force. Based on finding and literature review best available and practicable practices recommendations on wastes disposal were developed. It

was mentioned that the most acceptable and secure practice for current situation in Uzbekistan is **sterilization in cabinet-type autoclaves**, but not burning wastes in incinerators, as it was perceived to be before.

Annex 1 provides a table of the Framework for Environmental Action Plan, taking into account the environmental impacts commonly associated with reconstruction and small-scale construction and related control measures. Annex 1 presents the standard form of EMP based on the Environmental Questionnaire for construction and rehabilitation activities. Such EMPs will be included as a mandatory section in the bidding documents of a contractor. Using the form in Annex 1, an EMP based on the Environmental Questionnaire will be developed for each facility by the Environmental Engineer from the CBRP and provided to the regional curators of the CPIB. Each curator of the Health-4 CPIB, in cooperation with the environmental engineer, will conduct the monitoring of the implementation of EMP actions. The checklist consists of three parts.

Project Description

The main objective of the Project is to re-equip the Republican Scientific Center for Emergency Medical Care (RSC EMC), Its branches in the regions and in the Republic of Karakalpakstan, 175 sub-branches under rayon and city medical unions, health facilities in Tashkent city (clinical hospital of emergency medical care, city clinical hospitals №1, №4, №7) with medical equipment to enable them to fulfill the basic tasks of organizing and providing up-to-date qualified and specialized emergency and urgent medical care.

The Republican Scientific Center for Emergency Medical Care of the Republic of Uzbekistan is the head medical and scientific-methodological institution for the organization and provision of emergency and urgent medical care to the population of the Republic.

The objective of the Center is the qualitative organization and coordination of curative, scientific-methodological and educational work in the sphere of provision of timely qualified and specialized emergency health care to population.

The Project is implemented within the framework of the State Program for Health Development and is an integral part of creating the necessary conditions to maintain and to improve the health of the population. Modernization of the health structure and improvement of the quality of emergency medical care services are implemented on the basis of the President's Resolution #PP-2838 of March 16, 2017 "On measures of further strengthening of material-technical base and organization of activities of emergency medical aid system», the President's Decree #UP-4985 of March 16, 2017 "On further improvement of emergency medical aid system" and the President's Decree # UP-3923 dated September 19, 2007 "On main directions of further intensification of reforms and implementation of the State Programme for health care development".

According to the government enactments, it is planned to improve the quality of services of emergency medical care (EMC).

The proposed project will comprise the following five (5) components:

Component 1: EMS Enabling Environment, System Management and Quality Improvement.

This component will support a series of related interventions that are essential in re-orienting the EMS system towards the provision of high-quality emergency and urgent care, and will comprise four sub-components as follows:

*Sub-component 1.1: Regulatory, governance, and operational * management.* A robust legal and regulatory framework is essential for realizing the vision for EMS and guiding the

implementation and operation of the system. This sub-component will assist the government in developing such a framework and ensuring it is revised as needed throughout the life of the project. The sub-component will also assist in building capacity in operational management at all levels of the EMS system, including in the areas of human resources management, budget management and data-based decision-making. Support will also be provided to develop and/or update protocols for both dispatchers and operational crews to guide their performance in line with the established vision for the EMS system, and in the development of both pre-hospital and in-hospital triage and acuity scoring systems, which will be essential in ensuring that the focus of the EMS system remains predominantly on emergency and urgent cases.

Sub-component 1.2: Behavior Change Communication (BCC) on effective use of the EMS system.

This sub-component will finance specific interventions, which encourage the public to utilize the EMS system primarily for emergency and urgent cases and to use alternative out-patient settings (primary health care centers and polyclinics) for non-urgent cases. These interventions would include both explaining the need to reserve the EMS system for more serious cases and highlighting the likelihood that less urgent cases will be dealt with more quickly in alternative settings. Beneficiary feedback on improvements and performances of the EMS services will be collected on a regular basis and the results will inform about areas that perform well or require further improvements. Feedback provided by men and women will be tracked separately.

Sub-component 1.3: Quality monitoring and analytics.

The new dispatch, operational and management information systems will generate substantial amounts of real-time data. This sub-component will finance specific capacity building and analytical tools to fully exploit EMS-related data and make it readily available for both operational and senior management. Specific areas of analysis will include (but not be limited to): (1) response times by type of call; (2) distribution of calls by acuity score; (3) morbidity and mortality patterns by major diagnosis (including geographic variations); (4) utilization rates by age, gender and diagnosis; (5) ambulance team efficiency; and, (6) vehicle and equipment availability and utilization. The last type of analysis will be important for developing vehicle and equipment replacement strategies which will ensure the ongoing sustainability of the system.

Subcomponent 1.4: EMS system financing.

This sub-component will monitor the ongoing financing of the EMS system, with a view to ensuring a sustainable and efficient financing regime. In addition to ongoing monitoring of EMS system revenues and expenditures, it will examine alternative financing sources and/or approaches, including the identification of additional sources of revenue and the development of pilot financing schemes (e.g., copayment for non-urgent cases) tied to encouraging appropriate use of the EMS system. In this respect, it will rely on cost and operational data from the information system(s) and develop the capacity to do cost analysis of both pre-hospital and in-hospital activity.

Component 2: Dispatch, communications and information systems.

This component would finance the development of integrated dispatch centers in each of the 12 regions plus Tashkent. These centers would be responsible for call taking and dispatching of all ambulances within their borders, including those assigned to one of the 172 district centers or related sub-stations. The Tashkent center would also serve as a central coordinating function in case of natural disasters or widespread emergency situations. The central element of these centers would be a common, integrated computer aided dispatch and communications system. The dispatch and communications system would be the core of an integrated information system to support both operational and management decision-making and facilitate ongoing

monitoring and evaluation. All functions of such system are envisioned in the proposed new system that is already in the detailed design phase (but awaiting formal government approval).

The amount of allocated financing for the project is based on the assumption that most of the Tetra communication system will be financed from other sources. In this regard, it is assumed that within the framework of the project there will be defined the pilot regions, where the models of communication system will be developed and introduced. Based on the results of the pilot, the issue will be considered for the system implementation countrywide.

Component 3: Pre-hospital emergency care system improvement.

This component includes two sub-components as follows:

Sub-component 3.1: Training and skills improvement. This sub-component will develop a training needs analysis and develop training strategies to ensure that pre-hospital service staff have the skills needed to operate in a predominantly emergency/urgent care environment. The trainings will address gender disparities identified in the health sector and ensure equal participation of male and female health professionals. Feedback on the quality of trainings will be collected. While a well-established network of continuous medical education already exists within the EMS system, the funds under this sub-component would help facilitate the rapid dissemination of diagnostic and intervention skills as determined by the needs assessment. Another important element of the training will be ensuring that all staff are aware of and are able to apply the triage and acuity scoring system which will be essential in ensuring that the acuity of pre-hospital cases are properly assessed.

Sub-component 3.2: Essential Vehicles and Equipment. This sub-component will support the acquisition and distribution of modern ambulance vehicles, the essential equipment needed for those vehicles to support an increasing emphasis on pre-hospital emergency and urgent care (both trauma and medical emergencies, including obstetrical and neonatal emergencies).

This sub-component will also support the development of regional vehicle and equipment maintenance centers to ensure optimum availability and utilization of vehicles and other medical equipment.

Increase in the ambulance fleet is not expected within the framework of the Project. Old cars will be replaced by new ones, which are equipped with modern equipment for emergency medical care.

Component 4: In-hospital emergency care system improvement.

Component 4 comprise two sub-components as follows:

Sub-component 4.1: Training and skills improvement. This sub-component will develop a training needs analysis and develop training strategies for in-hospital emergency departments to ensure that staff have the skills needed to operate in a predominantly emergency/urgent care environment. The trainings will address gender disparities identified in the health sector and ensure equal participation of male and female health professionals. Feedback on the quality of trainings will be collected. While a well-established network of continuous medical education already exists within the EMS system, the funds under this sub-component would help facilitate the rapid dissemination of diagnostic and intervention skills as determined by the needs assessment. Another important element of the training will be to ensure that all staff are aware of and are able to apply the triage and acuity scoring system, which will be essential in ensuring that the acuity of in-hospital cases are properly assessed.

Sub-component 4.2: Essential Equipment. This sub-component will support the acquisition and distribution of essential equipment at the EMS facility level required to deal with an increasing emphasis on emergency and urgent care (both trauma and medical emergencies, including obstetrical and neonatal emergencies), in terms of diagnosis, triage, and treatment. It will also support the development and management of regional equipment maintenance centers, to ensure that hospital-based equipment continues to be available and work properly. The Project does not provide for a complete reconstruction of health facilities. If necessary, partial reconstruction works will be carried out.

Component 5: Project management.

This component will finance the costs associated with day-to-day project implementation (fiduciary and safeguards) and coordinator support for Components 1, 2, 3 and 4, including the costs of running the the Central Project Implementation Bureau (CPIB).

Geographic coverage

Territorially the Republican Center for Emergency Medical Care, its regional branches and sub-branches are located in an area with a sharply continental dry hot climate, with a high degree of insolation in summer, and relatively small amount of atmospheric precipitations. The average temperature of the hottest month is 38 ° C and of the coldest month - 18 ° C.

The population of 32,121,100 on Jan. 1, 2017, in comparison with the number of 2016, is rapidly growing. The urbanization is relatively low, as 50.6% in urban area and 49.4% in rural area.

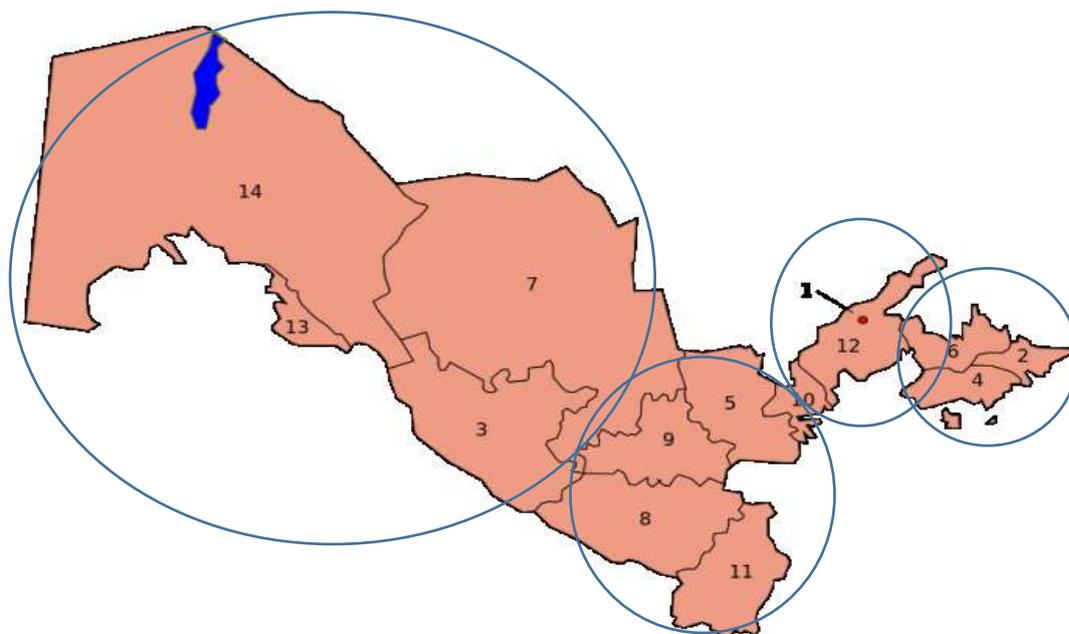
Along the regional differences in geo-demographic characteristics, the 12 regions can be categorized (see Map1, Table 1) as 4 wide areas which are:

Central area (6 millions); Tashkent capital area,

Southern area (10 millions); Samarkand centered mid-populated area,

Eastern area (9 millions); Fergana valley high-populated area,

and Western area (6 millions); deserted low-populated area.



Map 1.

Conditional breakdown of Uzbekistan regions per areas.

Table 1. Uzbekistan regions demographic data for 2016.

Area		Population (N)	Area (km ²)	Density (/km ²)
Across the Republic of Uzbekistan		31,620,300	448,978	70
Central	Tashkent city	2,393,200	335	7,148
	Tashkent region	2,794,100	15,300	183
	Sirdarya	790,600	5,100	155
Southern	Samarkand	3,583,900	16,400	219
	Kashkadarya	3,025,600	28,400	107
	Surkhandarya	2,411,500	20,100	120
	Djizak	1,276,100	20,500	62
Eastern	Fergana	3,505,300	6,800	516
	Namangan	2,603,400	7,900	330
	Andijan	2,910,500	4,200	693
Western	Bukhara	1,815,200	39,400	46
	Khorezm	1,746,900	6,300	277
	Navoi	972,900	110,800	9
	Karakalpakstan	1,791,100	164,900	11

It should be noted that RSC EMC can admit patients from any hospitals of the republic, while the number of branch hospitals is limited in admittance of emergency patients from rayon hospitals hospitals. In this regard, there is a need to strengthen the clinical capacity of the RSC EMC branches. Below is the list of regional EMC Centers included in the Health-4 Project (see Table 2).

Table 2.
Addresses of the regional centers of EMC included in the Health-4 Project

- **Republican Scientific Center for Emergency Medical Care**
2, Farkhad Str., Tashkent city, Tel: 150-46-00, Fax: 150-46-05
- **Andijan region branch of RSC EMC**
58, Pushkin Str. Andijan city, Tel: 224-25-61, Fax: 224-16-40
- **Bukhara region branch of RSC EMC**
159, Nakshbandiy Str., Bukhara city, Tel: 225-10-26, 225-22-83,
225-20-20. E-mail: bemergency@inbox.uz
- **Djizak region branch of RSC EMC**
1, Shifokor Str., Tashlak makhala, Djizak city
- **Kashkadarya region branch of RSC EMC**
5 Khazrati Bashir Str., Karshi city, Tel: 8 (375) 227-54-40, Fax: 227-54-62
- **Navoi region branch of RSC EMC**
27 Ibn-Sino Str., Navoi city, Tel / Fax: 8(436) 22-3-81-00,
E-mail: yusuf.malikov@minzdrav.uz
- **Namangan region branch of RSC EMC**
2, Guzal Str., Namangan city, Tel / Fax: 226-28-15, 237-00-01,
E-mail: namemerge@mail.ru
- **Samarkand region branch of RSC EMC**
18, Makhmudi A'zam Str., Samarkand city, Tel:232-12-45, 232-09-22
- **Syrdarya region branch of RSC EMC**
13, Ibn-Sino Str., Gulistan city, Tel:226-36-59, 226-36-84,
Fax: 226-49-79, E-mail: Uktam.isanturdiyev@minzdrav.uz
- **Surkhandarya region branch of RSC EMC**
PVO district, Naviy Str., Termez city,
Tel: 8-376-225-09-33, 225-00-65, Fax: 225-09-05,
E-mail: termez911@rambler.ru
- **Fergana region branch of RSC EMC**
104, Yuksalish Str., Fergana city, Tel: 224-19-63, Fax: 224-77-27
- **Khorezm region branch of RSC EMC**
1, Ataniyazov Str., Urgench city, Tel: 8 (362) 227-20-55. 227-23-33

E-mail: extmed@mail.ru

- **Nukus branch of RSC EMC**
100a, A. Dosnazarov Str., Nukus city
Tel: 222-93-70, 222-93-51, 222-94-28, 222-93-79
E-mail: sher_kk@mail.ru
- **City clinical hospital №1 named after Ibn Sino**
40, Tor-kucha 2-ry street, Uygur Str, Shaykhantakhur district, Tashkent city
Tel / Fax: 242-16-08, 249-01-64
E-mail: ibnsino@inbox.uz
- **City clinical hospital №4 named after I. Irgashev**
1, Birlashgan Str. Khamza district, Tashkent city, Tel: 296-14-22
E-mail: 4shksh@mail.ru
- **City clinical hospital №7**
24, Gayratiy Str. Yunusabad district, Tashkent city,
Tel: 224-89-33, Fax: 224-18-80.
- **Clinical hospital of EMC**
40 Foziltepa Str. Uchtepa district, Tashkent city,
Tel: 275-17-08, 275-17-73. E-mail: alisher_saatov@mail.ru

Regional branches of RSC EMC are the leading medical institutions for the organization and provision of urgent and emergency medical care in the regions, they provide organizational and methodological guidance in the work of emergency medical care departments at central city and rayon hospitals and coordinate their activities.

Taking into account that the equipment that is currently in service has exhausted its resource, and also taking into account the increase in the medical burden on RSC EMC and its regional branches, the opportunity of (i) equipping these institutions with modern medical equipment, (ii) introducing new technologies and (iii) training specialists is timely and important. Therefore, the Project is focused on the improvement of the Regional branches of the RSC EMC. However, it should be noted that re-equipping with modern equipment does not require complete reconstruction of the RSC EMC and its sub-branches. Partial reconstruction of relevant offices of some RSC EMC branches will be carried out within the framework of the Project. Thus, the technical upgrading of the RSC EMC, its branches, sub-branches and health facilities in Tashkent with medical and diagnostic equipment will not have significant impact on the ecology and the state of environment.

Description of the socio-economic environment

The organizational structure of the emergency medicine service ensures the coverage of all regions and all categories of the population of Uzbekistan. The round-the-clock operating mode provides availability of the emergency medical care via sufficient and rational resource support.

The Republican Center for Emergency Medical Care under the Ministry of Health of the Republic of Uzbekistan is a leading medical and scientific institution dedicated to the

organization and provision of urgent and emergency medical care to the population of the Republic.

The distribution of population on the territory of the Republic is comparatively uneven (Table 3). 32% of inhabitants are concentrated in Southern area, 28% - in Eastern, 20% - in Western and 19% - in Central areas.

Table 3.

Area		Population	
		(number)	%
Across the Republic of Uzbekistan		31620,30	100
		5977,9	18,9
Central	Tashkent city	2393,2	
	Tashkent region	2794,1	
	Sirdarya	790,6	
		10297,1	32,6
Southern	Samarkand	3583,9	
	Kashkadarya	3025,6	
	Surkhandarya	2411,5	
	Djizak	1276,1	
		9019,2	28,5
Eastern	Fergana	3505,3	
	Namangan	2603,4	
	Andijan	2910,5	
		6326,1	20,0
Western	Bukhara	1815,2	
	Khorezm	1746,9	
	Navoi	972,9	
	Karakalpakstan	1791,1	

Description of legal framework

Environmental Laws and regulations of the Republic of Uzbekistan

Environmental protection in the Republic of Uzbekistan is carried out in accordance with national laws and regulations, such as:

“On Nature Protection” (1992),

“On Water and Water Use” (1993),
“On Atmospheric Air Protection” (1996),
“On Wastes” (2002),
“On Environment Expertise” (2000),
Decree of the Cabinet of Ministers of the RUz (DCM RUz) “On adoption of the Decree on State Environment Expertise” (No.491, dated December 31, 2001).

The State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection (Goskomecology) is a primary organization for environmental regulation, and reports to the Cabinet of Ministers of the Republic of Uzbekistan. Goskomecology regulates monitoring, coordination and implementation of actions on environmental protection and control, rational use and reproduction of natural resources at the national, regional and rayon levels. The mandate of the Goskomecology is described the Decree of the President of the Republic of Uzbekistan No. UP-5024 of April 21, 2017.

The Head Department of State Environment Expertise (Glavgosexpertiza) is responsible for conducting environment expertise, and it belongs to the Goskomecology system. The Law of the RUz “On Nature Protection” (1992) says that the State Environment Expertise is mandatory measure for nature protection that precedes business decision-making.

Regulations of the World Bank

In terms of environmental protection, the World Bank follows the Operational Policy OP 4.01 Environmental Assessment, which requires an environmental assessment (EA) for the projects financed by the Bank. The OP 4.01 is aimed is to ensure that the projects are environmentally sound and sustainable, and thus to improve decision-making.

Borrower bears responsibility for conducting of the EA.

Depending on the complexity of the project, EA can use a number of mechanisms: environmental impact assessment (EIA), regional or industry EA, environmental audit, hazard evaluation or risk assessment, and an **environmental management plan (EMP)**.

General description of possible reconstruction works

The Project and related activities can finance works on reconstruction and repair of buildings including:

- routine planned and unforeseen repairs;
- capital selective and complex repair;
- alterations to buildings;

Repair methods financed by the project or by related activities may include:

- partial or complete restoration of the roof;
- replacement of windows and doors;
- plastering;
- reinforcement;
- installation of tension bars, clips, hooping, carcasses;
- replacement of structures;
- plaster application;

- building-up steps;
- earth compaction;
- repair of cracks in foundations;
- waterproofing.

The Project and related activities will not finance construction works associated with the construction of new premises, buildup of sto or additional premises.

Description of the Project environmental impact

Potential negative environment impacts and recommended mitigation measures

Potential impacts expected during rehabilitation/construction work might include:

Dust, exhaust, noise, increasing traffic. Dust and noise will be generated during construction works, from vehicles used for construction and transport. During construction work increase of traffic is expected on the way to a health facility. It could lead to inconveniences in resident's everyday life and local shopkeepers may experience reduced income as a result. Also increasing of traffic will lead to intensity on road particularly near schools and kindergartens.

Recommended Mitigation Measures. It's recommended to sprinkle water on construction site, control of vehicle's speed limits (in accordance with Traffic Rules) to decrease level of dust pollution. When transporting fine grade/loose materials, it is recommended to cover the trucks with material. In case the health facility is (at least partially) operating during construction work, the construction site should be fenced on the part of functioning hospital. To minimize intensity on the community roads, it is recommended to use bypass route to the health facility. In case if using of bypass is impossible, residents should be informed about possible risks on roads.

For the minimization and control over the exhaust gases of operating machinery and vehicles, it is necessary to carry out a mandatory daily technical checkup to ensure that it is serviceable.

To address noise and vibration related issues, all work will be conducted within normal working hours (i.e. 07:00 – 19:00 hrs) unless otherwise appropriately authorized

Impact from handling Asbestos Containing Materials (ACM) . Work with ACM is possible during rehabilitation of hospitals. Asbestos sheets had been used as constructional material for roofing.

Recommended Mitigation Measures. When handling ACM, the workers should use the special preventive measures (personal protection equipment) and techniques suppressing the dusting of asbestos. Also, the workers need to be instructed on the operating rules on asbestos materials handling. If ACM is located on the project site, it should be marked clearly as hazardous (toxic) material. Asbestos, which is to be removed, must be treated with a wetting agent to minimize the formation of asbestos dust. Only instructed workers and specialists with experience in working with asbestos must carry out this kind of work. If asbestos containing materials (ACM) are to be temporarily stored, they should be placed in closed containers with the appropriate designation. Precautionary measures should be taken against unauthorized removal of it from the territory of the construction site. When carrying out rehabilitation works (during construction), ACM will not be used. This will be specified in the bidding documents for the Contractor.

Impact on soil

Soil contamination by fuel and lubricants are expected during construction works. It could lead to ground water contamination as well. During construction works, soil contamination with oil products (for example, oil or fuel) may occur at the time of maintenance of machinery, which in turn may cause contamination of groundwater.

Recommended Mitigation Measures. To prevent this impact, the following measures are recommended:

- All repair works and fueling operating of machinery should be done on specially equipped concrete sites to prevent oil occurring in soil;
- Implement measures mentioned in Annex 2 in case of oil spills;
- Provide airtight containers to collect used oil products and ensure that all containers are properly labeled;
- Place oil sorbent sheets and/or containers under vehicles and equipment parked in high risk areas i.e., adjacent to watercourses) for longer than 2 hours or immediately under any vehicle or equipment that is leaking;
- Ensure that all fuel vehicles are parked only in designated areas on site with brakes applied and wheels chocked;
- Ensure that all workers and contractors, who works with machinery, are aware of possible environmental risk and have appropriate equipment;
- Locate emergency spill response kits and materials in areas where oil and fuel filled equipment will be working;
- Appropriate fuel storage facilities will be constructed ensuring a minimum containment volume of 120% of the fluids being stored.

Impact on flora and fauna

Construction works may require cut of some trees growing on the hospital territory.

Recommended Mitigation Measures. The cutting of each tree will have to be agreed with the regional committee for protection of nature. Merchantable timber will be removed from site; lops, chips and saw-dust will be cut and piled for disposal. Upon completion of rehabilitation/construction works, it is necessary to plant new trees instead of cut ones in a ratio of three to one (i.e. planting of 3 new trees in return for 1 cut tree). Sawdust can be used in a variety of ways: can be used to restore the surface layer of the soil and / or mixed with other wastes for further disposal.

Placement of sawdust or chips in the coastal zone (closer than 15 meters to the body of water) is prohibited. Burning of wood waste for their disposal and for clearing the construction site is not allowed.

When carrying out rehabilitation works, the contractor must use environmentally friendly materials and use a rational technology for their extraction (ballast stone, gravel, and sand). Priority should be given to materials that meet international and national quality standards. The use of well-known, well-proven technology should be a priority in comparison with the use of experimental and unknown one.

Waste management

Liquid and solid wastes will be generated during rehabilitation/construction works. Existing building elements (walls, foundations, ground and etc.) should be carefully demolished and the debris should be sorted and removed from the site. Used concrete blocks could be crushed and

reused as gravel for roads and constructions of the projects. All valuable materials (doors, windows and etc.) should be carefully dismantled and transported to the storage area assigned for the purpose. Valuable materials should be recycled within the project activity or sold out.

Inadequate waste handling can lead to contamination of soil, surface and ground water. Solid wastes will be generated as removed concrete, bricks and other construction materials. Debris should be stored on the hospital territory in areas specially designed for the purpose, be covered with fabric and, under agreement with local khakimiyats, be regularly transported for disposal on the rayon's landfills.

When carrying out rehabilitation works, namely, when disassembling buildings or their parts, special attention should be paid to work with asbestos-containing materials, using appropriate precautions. It is necessary to wear protective clothing when working with asbestos. The work and disposal of AFM should be carried out in strict accordance with national legislation on handling hazardous materials. It is forbidden to discharge waste into bodies of water or to the territory adjacent to them.

Generated liquid wastes (household waste, oil spills and paints) will be properly disposed. Household waste will be discharged into the sewerage network existing on the territory of the HF, or (in its deficiency) into the septic pits. If needed, it is recommended to install bio toilets in accordance with hygienic standards. Spilled oil and fuel must be disposed of in accordance with the procedure described in the previous paragraph.

At the stage of **HF operation**, medical waste will be the main impact on the environment. Medical waste management plan is presented in below sections.

WASTE MANAGEMENT FOR MEDICAL EQUIPMENT TO BE DELIVERED AND INSTALLED

At the stage of acquisition and installation of medical equipment, formation of waste is expected in the form of packaging material - cardboard, polystyrene, cellophane and plastic fasteners. The resulting waste is recommended to be disposed of in accordance with existing standards - cardboard and paper will be delivered for processing to the specialized enterprise "Vtorsiryo", the rest of waste will be transported to a local landfill.

MEDICAL WASTE MANAGEMENT PLAN

Types of medical wastes

In order to establish uniform standards and procedures for the management of medical waste, the sanitary norms (SanPiN) No. 0317-15 "Sanitary rules and norms for collection, storage and disposal of waste in medical and preventive treatment facilities of the Republic" were approved in 2015.

These sanitary regulations define the rules for collection, storage, processing, decontamination and disposal of all types of waste, including medical ones, by healthcare facilities.

Medical waste (dangerous in epidemiological terms) is the source of harmful chemical, biological and chemical-biological preparations and elements entering the environment; medical waste may contain pathogenic microorganisms and helminth eggs, as well as it may be contaminated with toxic and radioactive substances.

The risk group includes the personnel of health facilities, patients and persons, who are responsible for transportation and subsequent disposal of waste.

Hazardous wastes are solid and liquid wastes or a mixture thereof, which due to their nature and the concentration of chemical or infecting components in them, as well as physical factors:

- a) may be the cause (or significantly contribute to) of increase in mortality rate or increase in the incidence of serious and irreversible diseases, as well as diseases that lead to disability;
- b) in case of improper handling, storage, transportation, disposal, processing, may create present or future potential hazard to human health or environment.
- c) formed due to the infected waste, toxic and radioactive components, slightly modified anatomical waste, pose a hazard caused by social and aesthetic-ethical reasons.

This SanPiN establishes (i) the mandatory sanitary and epidemiological requirements for handling (collection, temporary storage, disinfection, decontamination, transportation) waste generated in organizations within the performance of medical and / or pharmaceutical activities, curative-diagnostic and healthful procedures, as well as (ii) the requirement to the placement of equipment and operation of the site for handling medical waste, including respective sanitary and anti-epidemic work regimes.

Control over the observance of these sanitary rules is carried out by the Centers of State Sanitary and Epidemiological Supervision of the Republic of Uzbekistan in the sphere of ensuring the sanitary and epidemiological welfare of the population in accordance with the legislation of the Republic of Uzbekistan.

Medical waste, depending on the degree of their epidemiological, toxicological and radiation hazards, as well as the negative impact on the human environment, are divided into five classes of hazard (see Table 2).

After decontamination using physical methods and changing the appearance of waste, that excludes the possibility of reuse, waste of Classes B and C can be accumulated, temporarily stored, transported, disposed and buried with Class A waste. Packaging of disinfected medical waste of Classes B and C must have marking, indicating the disinfection of waste.

Table 4

Classification of waste according to SanPiN

№	Class of hazard	Characteristics of morphological composition of waste
1.	Class A - non-hazardous	non-hazardous wastes –having no contact with biological fluids of patients, infectious patients; non-toxic waste - food waste of all departments of health facilities, except for infectious (including dermatovenerologic), tuberculous; furniture, inventory and faulty diagnostic equipment, which does not contain toxic elements; noninfected paper, sweepings, construction debris, etc.
2.	Class B - hazardous (risky)	hazardous (risky) wastes - potentially contaminated waste: materials and tools contaminated with biological fluids (including

		blood, patient's discharge), pathological waste; organic surgical waste (organs, tissues, etc.); waste from infectious diseases departments (including food); waste from microbiological laboratories working with microorganisms of the 3rd and 4th groups of pathogenicity; biological waste from vivaria.
3.	Class C – acutely hazardous wastes	all materials being in contact with patients with special danger infections; waste from microbiological laboratories working with microorganisms of 1-2 groups of pathogenicity; waste from chest department; waste from patients with anaerobic infection
4.	Class D -wastes in composition similar to industrial wastes	expired medications; waste from medicinal and diagnostic preparations; disinfectants that cannot be used, with expired shelf life; cytostatics and other chemical preparations; Mercury-containing items, devices and equipment
5.	Class E – radioactive waste	all types of waste containing radioactive components, in any aggregative state, in which the content of radionuclides exceeds the permissible levels established by the radiation safety standards

Classification of bags for medical waste:

Class A – white color bags.

Class B – yellow color bags.

Class C – orange color bags.

Class D – black color bags.

Class E – brown color bags.

Requirements on medical waste management

The system of collection, transportation, interim storage, processing and disposal of medical waste should include the following stages:

- collection of waste within organizations that carry out medical and (or) pharmaceutical activities;
- movement of waste from the units and their interim storage on the territory of the organization forming waste;
- disinfection;
- transportation of waste from the territory of the organization forming waste;
- deactivation of the waste;
- final disposal of the deactivated medical waste.

a) Decentralized system

- collection of waste in organizations performing medical and (or) pharmaceutical activities;

- transportation of waste from the units to interim storage place on the territory of the organization forming waste;
- interim storage on the territory of the health facility;
- treatment / disinfection of medical waste;
- or the final disposal of disinfected wastes.

b) Decentralized system

- collection of waste in organizations performing medical and (or) pharmaceutical activities;
- transportation of waste from the units to interim storage place on the territory of the organization forming waste;
- temporary storage on the territory of the health facility;
- pickup of medical waste by an external company;
- external centralized treatment / disinfection of medical waste;
- processing or final disposal of disinfected wastes.

Head of the organization that carries out medical and (or) pharmaceutical activities, approves the instruction, which defines the responsible staff and the procedure for handling medical waste in this organization.

Mixing of wastes of different classes in a common container is unacceptable.

The processes of waste transportation from the places of generation to the sites of interim storage and (or) disinfection, unloading and loading of reusable containers must be mechanized (carts, elevators, lifts, motor trolley, etc.).

Persons working with medical waste are preliminarily and periodically instructed on the safe handling of medical waste.

Collection, interim storage and disposal of waste should be carried out in accordance with the customary for the organization (medical or pharmaceutical) scheme for handling medical waste.

This scheme is developed in accordance with the requirements of actual sanitary regulations and approved by the head of the organization.

The scheme for medical waste handling specifies:

- qualitative and quantitative composition of the generated medical waste;
- developed and accepted in the region the standards for medical waste generation;
- the need for consumables and containers for the collection of medical waste, based on the requirements of safety procedures for Class B medical waste: mandatory replacement of containers 1 time per shift, but at least 1 time within 8 hours. Containers for sharp waste must be replaced when they are not more than $\frac{3}{4}$ filled; in the operating rooms - after each operation;
- the procedure for collecting of medical waste;

- the procedure and places of interim storage (accumulation) of medical waste, the frequency of waste transportation from the health facility;
- the methods used to decontaminate and to remove medical waste;
- the procedure for documenting the volume of waste and accounting of emergency situations;
- the procedure for personnel actions in case of violation of the package integrity (medical waste spillage, pouring out);
- organization of training on the rules of epidemiological safety when handling medical waste for the personnel.

REQUIREMENTS FOR MEDICAL WASTE COLLECTING

Class A waste is collected in reusable containers or disposable bags. The color of bags for Class A waste must be white. It is allowed to use bags of black color. Disposable bags are placed on special carts or inside of reusable containers. Containers for waste collecting and carts should be marked with the wording "Waste. Class A ".

Class B waste are subject to mandatory decontamination (disinfection). The choice of the method of decontamination is determined by the capabilities of the organization that carries out medical activities and is made when developing a scheme for medical waste handling.

Class B wastes are collected in disposable plastic bags or solid (punctureproof) packaging (containers) of yellow color or yellow labeled. The choice of package depends on the morphological composition of the waste. It is prohibited to use plastic bags made of PVC.

For safety reasons, these containers should be divided into two groups per color:

1 - Yellow color - for collection of used needles, scarificators and other sharp, piercing and cutting instruments;

2 – Orange color - to collect organic waste after they have been disinfected.

Pathoanatomic and organic surgical wastes of Class B (organs, tissues, etc.) are subject to cremation (burning) or burial in cemeteries in special graves in a specially designated section of the cemetery in accordance with the requirements of sanitary rules for the arrangement and maintenance of cemeteries. Decontamination of such wastes is not required. Containers should be covered with a lid and marked with an international sign of infectious substances and the inscription: "Caution! Infectious waste ». The containers can be reused after disinfection.

Class C wastes are subject to mandatory decontamination (disinfection) by physical methods (thermal, steam, microwave, radiation, etc.). The use of chemical disinfection methods is allowed only for the disinfection of food waste and patient discharge, as well as for the organization of primary antiepidemic measures in disease sites.

The choice of the method of decontamination (disinfection) is made when developing a scheme for the collection and disposal of waste. Removal of not disinfected Class C waste outside the territory of the organization is not allowed.

Class C wastes are collected in disposable soft (bags) or solid (punctureproof) packaging (containers) of red color or orange labeled. The choice of package depends on the morphological composition of the waste. Liquid biological waste, used disposable piercing

(cutting) instruments and other medical products are placed in a solid (punctureproof) moistureproof tight pack (containers).

Used mercury-containing devices, lamps (luminescent lamps, etc.), equipment related to **Class D medical wastes** are collected in labeled containers with closely fitting brown lids and are stored in specially designated premises.

Class E wastes are subject to immediate decontamination at the place of generation using special means. It is also necessary to decontaminate the workplace. Work with such waste must be carried out using special personal protective equipment and carried out in an exhaust hood in line with the actual regulatory document.

Collecting, storage and disposal of Class E waste is carried out in accordance with the actual normative document regulating the handling of radioactive agents.

When collecting medical waste, it is not allowed:

- pour (overload) unpacked Class B and Class C wastes from one container to another;
- manually destroy, cut Class B and Class C wastes;
- manually remove the needle from the syringe after its use, put the cap on the needle after the injection;
- use a soft disposable package to collect sharp medical equipment and other sharp objects;
- install disposable and reusable containers for waste collection at a distance of less than 1 m from heating appliances;
- tramp down any waste by hand;
- carry out any waste related actions without wearing gloves or necessary personal protective equipment and overalls;

If an employee sustain an injury that is potentially ***dangerous in terms of infection*** (an injection, a cut with a solution of continuity of the skin covering and mucous membranes) during handling of medical waste, emergency preventive measures must be taken, in accordance with the actual regulatory document.

In case of emergency situations, if an open location of the waste is found inside (inter) trunk containers or vehicles, disinfection is carried out immediately. After disinfection, the sewage waters are collected and poured into the sewage system of the health facility.

Waste management technologies, including segregation of waste, can be applied only after preliminary mechanical disinfection of Class B and Class C wastes by physical method. It is not permitted to use secondary raw materials, obtained from medical waste, to manufacture goods for children, materials and products that come into contact with drinking water and food products, healthcare products.

Burial of disinfected Class B and Class C wastes at the landfill is allowed only if their marketable appearance has been changed (by grinding, burning, pressing, etc.) and the repeated usage of them is not possible.

Decontamination and disposal of vaccines are carried out in accordance with the sanitary requirements for the storage and disinfection of solid domestic waste at special sites (SanPiN 0157-04).

REQUIREMENTS FOR TRANSPORTATION OF MEDICAL WASTE

Transportation of Class A waste is arranged taking into account the sanitation scheme accepted for the given territory, in accordance with the sanitary legislation requirements to the maintenance of the territories of population aggregates and the management of production and consumer waste. When transporting Class A wastes, it is allowed to use transport which is used for solid household waste.

For transportation of non-contaminated Class B waste, specialized vehicles are used, it is not allowed to use them for other purposes.

Transportation, disinfection and disposal of Class D waste is carried out in accordance with the hygiene requirements imposed on the procedure of accumulation, transportation, decontamination and burial of toxic industrial wastes, in accordance with the actual SanPiN.

Transportation of Class E waste is carried out in accordance with the requirements of radiation safety standards (NRB-2006) and the main sanitary rules for ensuring radiation safety (OSPORB-2006).

IN-PROCESS MONITORING

In-process monitoring of collecting, interim storage, disinfection of medical waste is carried out on the basis of

- visual and documentary verification (at least 1 time per month);
- laboratory and instrumental testing (at least once a year).

MEASURES OF PREVENTION IN WORK WITH MEDICAL WASTE

Preventive measures are mandatory when working with medical waste, as well as with items contaminated with blood or other biological fluids.

The analysis of the existing in the Republic the practice of medical waste management confirms the need to develop and implement a centralized system for managing medical waste. The presence of centralized control and timely training of all medical personnel in the skills of safe disposal of medical waste will reduce the risk of unwanted infection for the specialists working with medical waste.

It should be noted that to date, there is **no centralized monitoring** of the management of medical waste disposal. Each medical institution functions on the basis of SanPiN No. 0317-15. As may be required, an order / guiding document is issued for medical institution. There is no single system of training and communication of epidemiologists among health facilities. **It is**

recommended to develop and create a unified system for monitoring of medical waste treatment and disposal within the framework of the Health-4 Project.

Training program

It is recommended to develop a unified system "Courses on the risks in the medical waste management" for the entire staff of health facilities (vertical courses). This training should include both routine procedures on the actions and management of medical waste, as well as emergency procedures in the event of accidental exposure (e.g., needle wound). This course should include aspects of the environmental management of household waste, liquid wastes and appropriate reporting procedures. These training courses are recommended to be organized by RSCEMA with the assistance of the CPIB.

Description of the Project's impact on the social environment

The implementation of the "Health-4" Project will enable to raise the rate of diagnosis and provision of emergency medical care to population to the new quality level. This will have a positive impact on the social level of patients.

Procedure for the environmental review of reconstruction works and responsibility of the parties for implementation of the Framework Plan (FEMP, Framework Environmental Management Plan) provisions.

The Ministry of Health, CPIB, Customers of reconstruction works and building contractors are responsible for execution of the document provisions.

STEP 1: After determination of the requirements and the sequence of works related to the reconstruction works under the project, the Environmental Engineer of the CPIB develops an Environmental Management Plan (EMP) based on the Environmental Questionnaire (template specified in the Attachment 1) for the object (site) and coordinates it with the Regional Curator of the CPIB.

The Customers of reconstruction works shall ensure compliance with the requirements of the national environmental assessment (for example, preparation of EIS (environmental Impact Statement) and the receipt of other official agreements and approvals). These requirements are considered separate, but parallel to the requirements presented in this document, and the Customers of reconstruction works are obliged to follow them.

STEP 2: Environmental Engineer of the CPIB together with the subdivision of the Ministry of Health includes EMP to the standard contract with a contractor. Then, in cooperation with regional directors, the RPIB provides contractors with EMP and a sample of the project passport.

STEP 3: Contractor based on provided documents fills in the project passport, takes on for execution of EMP and draws up a protocol with the decision on obligatory implementation of

EMP. The abovementioned documents after approval and agreement with the contractor shall be provided to the CPIB.

STEP 4: Environmental Engineer of the CPIB conducts monitoring of the implementation of EMP based on Environmental Questionnaire and reports on its implementation through the preparation of regular reports on the status of the project to the CPIB management team and the World Bank (upon request).

Contracts

Contracts and invoices will include provisions for the proper disposal of unacceptable construction materials and construction waste. It will be envisaged in procurement documents, that the use of environmentally unacceptable materials is prohibited.

The standard contract, in accordance with the paragraph on environmental protection will stipulate the reconstruction of relevant sanitary facilities, including the disposal of wastewater and effluents. EMP based on Environmental Questionnaire will be provided to contractors performing construction works under the Project, and will be an integral part of the standard contract for construction.

Monitoring report prepared by the site inspector, will be the basis for paying a full amount of remuneration approved by the contract, as well as the results of the analysis for compliance with the technical quality or quantity criteria. In order to ensure an adequate performance by the contractor the environmental obligations, a provision will be included in works contracts rendering fines in the event of non-compliance with environmental requirements in the contract, for instance, in the form of withholding a certain portion of payments, the amount of which will depend on the gravity of violations.

Costs for Environmental Protection

Responsibility for costs related to the proposed environmental impact, such as cutting down the trees, construction waste removal and other impacts, is assigned to contractors.

The payment for services of Consultant/Environmental Engineer of CPIB will be made according to the contract. The training of an Environmental Specialist will be conducted within the framework of the project.

Public Consultations

During the preparation of this Framework document, meetings were held with specialists of RSCMC and Republican Sanitary-Epidemiological Department. The issues regarding disposal of medical waste were discussed. It was defined that currently there is no any centralized scheme for medical waste disposal. Given that the medical waste disposal may be a source of risk for both health specialists and patients, it is recommended to develop a scheme of centralized management and monitoring of medical waste disposal under the frame of "Health-4" project.

The discussion of the current Framework document was held during public hearings in RSCEMC and in Sirdarya Branch in September of 2017 (presentation, questions and photos will be attached).

Final version of the current document will be published on the web site of the Ministry of Health of the Republic of Uzbekistan.

Environmental management and monitoring framework

Type of activity	Expected impact	Mitigation measures	Type (Methodology) of monitoring	Responsible organizations		
				Responsible organization	Time /frequency of monitoring	Organization which will conduct monitoring
1	2	3	4	5	6	7
CONSTRUCTION PHASE						
Site clean-up works	Dust and noise Contamination of water and soil	Fence off the construction site. Confine noise and vibration generating activities to the daytime. Notify neighbours or local community if work is going to occur outside of those hours. Water usage should be monitored Accumulate polluted water in septic tanks and special sewage water collection	On-site inspection during the course of the whole construction process	Contractor	Non-continuous monitoring for the whole period of construction After completion of clean-up.	CPIB Main Contractor Local khakimiyats, State Architecture and Construction Inspectorate (SACI), Design institutions

		<p>pits. Once filled up, discharge into the operating sewerage network existing at all the sites.</p> <p>Minimize generation of waste.</p> <p>Avoid waste disposal in the areas at the immediate vicinity of surface water.</p> <p>Ensure appropriate resources for waste collection and transportation.</p>				
1	2	3	4	5	6	7
Ground works	<p>Generation of dust</p> <p>Damage to existing engineering systems</p> <p>Damage to the existing growth</p>	<p>Spray the water on site twice a day.</p> <p>Trucks transporting construction materials covered with canvas</p> <p>Cover the existing growth with protective net.</p>	<p>On-site inspection during the whole process of construction</p>	<p>Contractor</p>	<p>Non-continuous monitoring for the whole period of construction</p> <p>After completion of clean-up.</p>	<p>CPIB</p> <p>Main Contractor</p> <p>Local khakimiyats, SACI, Design institutions</p>

	<p>Damage to the upper fertile layer of soil in the affected area around the buildings.</p> <p>Damage to cultural/historical monuments.</p> <p>Disposal of the dredged waste at uncontrolled dumping sites</p>	<p>Removal of shrunken plants and plant the new ones.</p> <p>Remove and store top layer of soil in designated places, cover to prevent water flushing and after completion of work replace it.</p> <p>Carry out all work on the site of construction. While conduction of groundwork in case of finding historic/cultural monuments, immediately stop activities on the site and continue works only upon receiving written permission from the client,</p> <p>Waste is disposed strictly in the area assigned by local administration (khakimiyat).</p>				
Building frame development				Contractor	Non-continuous monitoring	CPIB

	Potential damage caused by the falling objects or loads	To fence in the territory to ensure safety when lifting mechanisms. Place blockers. Provide workers with seat belts and helmets.	On-site non-continuous inspection			Local khakimiyats, SACI, Design institutions
1	2	3	4	5	6	7
Demolition	Dust Generation of the construction waste/debris Damage to internal engineering systems	Moisten dry areas; cover trucks carrying splinters when traveling through populated areas and when traveling on roads with gravel cover. Carefully demolish existing building elements; store debris in specially designated places and periodically export from the territory, in order to prevent the accumulation of a large amount of waste.	Visual observation. Control for the whole period of demolition works.	Contractor	The whole period of works	CPIB Main Contractor Local khakimiyats, SACI, Design institutions

Disposal of construction waste	Disposal of waste at uncontrolled dumping sites may lead to soil and groundwater contamination	<p>Minimize volumes of generated waste.</p> <p>Place construction debris in closed containers and transport in covered trucks.</p> <p>The demolition/construction waste is disposed strictly in the area assigned by local government. The disposal of waste into surface waters or in the sites at their immediate vicinity is prohibited.</p> <p>Ensure wearing of protecting gear by workers handling asbestos containing waste; switch off the internal supply of water, gas and electricity prior to commencement of demolition.</p>	<p>Visual observation.</p> <p>Control for the whole period of demolition works</p>	Contractor	The whole period of works	Local khakimiyats, SACI,
1	2	3	4	5	6	7
				Design institution		CPIB

		Locate incoming cables underground.				
1	2	3	4	5	6	7
OPERATION PHASE						
Hospital in operation	<p>Unauthorized storage of hazardous wastewater, waste gases and improper storage of medical waste during the functioning of health facility.</p> <p>Collection and storage of non-disinfected wastes together with household waste on uncontrolled landfills, leading to contamination of soil and groundwater and the risk of spread of diseases.</p>	<p>Clearly assign responsibilities for waste management to members of management team.</p> <p>Developed a waste management plan for the project assisted hospitals, with the emphasis on minimization of waste - segregation, source reduction, treatment and proper disposal</p> <p>Train hospital staff, including health care professionals, who produce waste.</p> <p>Design waste storage sites in hospitals with the condition of ensuring full control over them before</p>	<p>Waste management responsible person (senior nurse or epidemiologist) carries out daily monitoring of the healthcare waste management system.</p> <p>Periodic evaluation and review of the waste management program</p>	Hospital administration	Daily Periodic	<p>District Branches of MOH</p> <p>Municipal Government Hospital administration</p> <p>District Branches of SES CЭC</p>

		<p>they are removed from the hospital.</p> <p>Burn infected medical wastes in incinerators in compliance with specification (in case if incinerators are planning to be installed).</p> <p>Treat infectious waste prior to disposal. Dispose waste only in landfill areas assigned by the local governments (if the project will not install incinerators).</p> <p>Ensure that adequate resources are allocated for health care waste management, including plastic bags, waste collection bins, sharp containers, trolleys, etc.</p>				
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Reporting and Document's revision

Reporting on implementation of EMP Framework will be carried out on an annual basis. When changes are made to the structure of the project the given EMP Framework document shall be revised and updated taking into account all changes.

Annex 1 Environmental Management Plan based on the Environmental Questionnaire for Construction and Rehabilitation Activities

Environmental Management Plan based on the Environmental Questionnaire for Construction and Rehabilitation Activities

EMP CHECKLIST

EMP checklist is applied to projects covering rehabilitation or construction works off sites. The current checklist provides «practical recommendations on adequate method of works», it is convenient in using and it has been compiled in accordance with the World Bank's safeguard requirements. The checklist has been compiled taking into account standard methods for mitigation of environmental impact under construction-related contracts, which include a local environmental impact.

The checklist consists of an introductory section and three main sections:

- Introductory part includes description of the project, defines an environmental category of the project and explains a concept of EMP checklist.
- **Part 1** includes a descriptive part that characterizes the project and specifies in terms the institutional and legislative aspects, the technical project content, the potential need for capacity building program and description of the public consultation process.
- **Part 2** includes the results of preliminary assessment of environmental and social impact in a simple Yes/No format, after that mitigation measures are outlined for separate types of work.
- **Part 3** represents the monitoring plan for activities during project construction and implementation. It retains the same format required for standard EMPs of the World Bank. It is supposed that Parts 2 and 3 will be included to the package of bidding documents for contractors.

PART 1: GENERAL PROJECT AND SITE INFORMATION

PART 1: ORGANIZATIONAL AND ADMINISTRATIVE ASPECTS

Country	Uzbekistan			
Project title	Проект по модернизации системы высшего образования			
Scope of work under the project				
Organizational activities Name and contacts	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/LABORATORY DESCRIPTION

Name of site				
Description of laboratory location			Attachment 1: Site Map [] Yes [] No	
Main types of construction works				
Who is responsible for the lab?				
Main research processes conducted in the lab				
Hazardous materials used in the laboratory (acids, alkali, radioactive substances)				

LEGISLATION

Specify the national and local regulatory documents and permits that apply to project	
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PUBLIC CONSULTATIONS

Specify when and where the public consultation took place (students, university lecturers, lab workers, service staff, public organizations and etc.)

INSTITUTIONAL CAPACITY BUILDING

Will there be any capacity building?

No or Yes. If yes, capacity-building program should be included to the Attachment 2.

PART 2: SAFEGUARDS INFORMATION

PART 2: PRELIMINARY ASSESSMENT OF ENVIRONMENTAL/SOCIAL IMPACT			
Will the site activity include/involve any of the following?	Activity /Issue	Status	Additional references
	A. Building rehabilitation	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section B below
	B. Construction of a new site	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section B below
	C. Individual wastewater treatment system	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section C below
	D. Historic building(s) and districts	<input type="checkbox"/> Yes <input type="checkbox"/> No Probably	See Section D below
	E. Acquisition of land ¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section E below
	F. Hazardous or toxic materials ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section F below
	G. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section G below
	H. Handling/management of medical waste	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section H below
	I. Traffic and Pedestrian Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	See Section I below

¹ Land acquisitions includes relocation of local residents; change of their sources of subsistence or income, encroachment on private property that is lands that are acquired or transferred to the project, and affects people who live and/or spontaneously settled and/or implement business activity (e.g., kiosks) on land that is being acquired.

² Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc..

PART 3: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
A. General Conditions	Notification and Worker Safety	<ul style="list-style-type: none"> (a) The local construction and environment inspectorates and communities have been notified of upcoming activities. (b) The public has been notified of the works through appropriate notification in the mass media and/or at publicly accessible sites (including the site of the works). (c) All legally required permits have been acquired for construction and/or rehabilitation works. (d) All works will be carried out in a safe and disciplined manner designed to minimize impacts on neighbouring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting at the sites will inform workers of key rules and regulations to follow.
B. General Rehabilitation and /or Construction Activities	Air Quality	<ul style="list-style-type: none"> (a) During interior demolition debris-chutes shall be used above the first floor. (b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust. During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (c) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust. (d) There will be no open burning of construction / waste material at the site.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		(e) There will be no excessive idling of construction vehicles at sites.
	Noise	<p>(a) Construction noise will be limited to restricted times agreed to in the permit.</p> <p>(b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible.</p>
	Water Quality	(a) 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	<p>(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.</p> <p>(b) 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.</p> <p>(c) Construction waste will be collected and disposed properly by licensed collectors.</p> <p>(d) The records of waste disposal will be maintained as proof for proper management as designed.</p> <p>(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos).</p>
C. Individual wastewater	Water Quality	(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
treatment system		<p>(b) 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.</p> <p>(c) Monitoring of new wastewater systems (before/after) will be carried out.</p>
D. Historic building(s)	Cultural Heritage	<p>(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation.</p> <p>(b) It shall be ensured that provisions are put in place so that artefacts or other possible “chance finds” encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.</p>
E. Acquisition of land	Land Acquisition Plan/Framework	<p>(a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank’s Task Team Leader shall be immediately consulted.</p> <p>(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented.</p>
F. Toxic Materials	Asbestos management	<p>(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material</p> <p>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure</p>

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		<p>(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</p> <p>(d) Asbestos will be handled and disposed by skilled & experienced professionals</p> <p>(e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site.</p> <p>(f) The removed asbestos will not be reused</p>
	Toxic / hazardous waste management	<p>(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information</p> <p>(b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching</p> <p>(c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.</p> <p>(d) Paints with toxic ingredients or solvents or lead-based paints will not be used</p>
G. Affected forests, wetlands and/or protected areas	Protection	<p>(a) All recognized natural habitats, wetlands 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.</p> <p>(b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided.</p>

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		<p>(c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences</p> <p>(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.</p>
<p>H. Disposal of medical waste (not applicable)</p>	<p>Infrastructure for medical waste management</p>	<p>(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:</p> <ul style="list-style-type: none"> ▪ Special facilities for segregated healthcare waste (including used consumables, human tissue or fluids) from other waste disposal; ▪ Appropriate storage places for medical waste are equipped; ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational.
<p>I. Traffic and Pedestrian Safety</p>	<p>Direct or indirect hazards to public traffic and pedestrians by construction activities</p>	<p>(a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards. <input type="checkbox"/> Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		<ul style="list-style-type: none"> <li data-bbox="779 260 1816 336">☐ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement. <li data-bbox="779 371 1890 448">☐ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. <li data-bbox="779 483 1859 560">☐ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART 3: MONITORING PLAN

Phase (Is the parameter to be monitored?)	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							
During construction works							
During the functions							

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