Initial Environmental Examination

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ARM: Water Supply and Sanitation Sector Project – Subproject Ijevan Town

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WATER SUPPLY AND SANITATION SECTOR PROJECT

WATER SUPPLY AND SANITATION SYSTEM IMPROVEMENT IN THE SETTLEMENTS OF THE REPUBLIC OF ARMENIA

INITIAL ENVIRONMENTAL EXAMINATION

Subproject IJEVAN TOWN

1.1 Scope of work

The purpose of this sub-project is improvement of drinking water supply to of Ijevan town in RA Tavush region.

The aim of the report is to estimate the impact of each freseen activity within the subproject on the environment, settlemets, areas of natural reservations and places of cultural importance.

The accurate and complete evaluation of the impact on the environment is of great significance for prevention the harmful impact of the construction works, operation and further maintanance as well as possible dismantling of water supply systems.

The impact during the construction can include damaging the vegitation, soil erosion, polution of air, poluting soil and water resources with lubrications, construction and everyday wastes. The negative impact during the operation period may be connected with the damage of some sections of water supply system.

The positive impact on the environment is conditioned by stable and effective implementation of water resources.

Social and economic impact of water supply and wastewater systems is mainly possitive as it exculdes mixing the irrigation, sewage and drinking water, reduces the danger of water infections, encreases the water supply duration to the population, provides stable water and effective consumption.

1.2 Description of the present water supply and sewerage systems of Ijevan town

Water supply and wastewater systems of the mentiones settlements are rather old, worn out and are in bad technical conditions. There is much leakage in Water supply system.

The quality indices of water is insufficient. Because of the worn out nets there is change in taste and color of the water (especially after rain), which is caused by the penetration of rain and partially sewage water into the system. Many entrance lines have no water meters and the existing water meters are clogges and damaged.

Water supply of Ijevan town is fed from the natural springs nearby the area. Water is conveyed to the DRRs constructed on high elevated part, then it is sent to the distribution net of the town.

The studies show that water supply to the districts far from conduits are worse than for the districts which are comparably close which is the result of water waste, incomplete water metering and leakage.

Sewerage system:

There is sewerage system in the town. The system operates normally. There are immergency sections especially in the main collector along the river. Collected sewerage is removed from the twon and filled into the River Aghstev without beeing cleaned.

1.3 The geographical location and climate of the residential area

From hydrogeological viewpoint there are continental-volcanic and sedimentation complexes (fourth age and late pliocen ages), as well as alluvial and deluvial deposits. Geological structure is upper plocen-pliocen lake, river, flood, slop sedimentations (3.3-0.01 mln.years).

The newest volcanos are missing.

There are the following field types-forest brown, deposite carbonate, forest brown, depposit type and steppi type.

The surface topography is specific with low mountain zones (up to 1500m), mild sloppy, partially rocky, divided, V-shaped at places bow-shaped.

According to the types of the relief they are classified into IV accumulations (deposites, brought) relief, mountain valleys, alluvial-proluvial foothill slightly sloping, as well as water erosion and water accumulation relief shape, wide valleys with flood routes and terraces.

The degree of soil erosion is (class) VI, more than 70%.

It is in the area with possible 8 rate earthquake.

The minimum air temperature is -20-220C, the maixmum temperature is +34-+380C:

1.4 Biodiversity and sensitive nature areas

Ijevan town Tavush marz has ferest vegitation and partially it is mixed leafy type. The following types of vegitations are common wide-leafy trees such as beech trees (Fagus orientalis Lipsky), oak trees (Quercus iberica Stev.Q. macranthera Fisch. et Mey. ex Hohen), (Carpinus betulus L,. C. Orientalis Mill), ash-trees (Fraxinus excelsior L.), lime-trees (Tilia begoniifolia Stev.). Among leafy trees there are Paliurus spina-christi Mill., Spiraca crenata L., Amugdalus fenzliana (Fritsh) Lipsky, Pistacia nutica Fisch. et Mey. Celtis glabrata Stev. Ex Planch., Cerasus incana (Pall.) Spach, Purus salicifolia Pall., As well as thin-forest vegitation. At some places there are areas for agricultural use (lands, planting areas).

From representatives of vertebrate animals we can meet here wild cats, dark-blue doves, dear, squirrel, European roe.

From representatives of invertebrate there are worms, crab, ants, bees, grasshopper, bedbugs, blue butterflies, moths, house and field flies.

Specially Protected Natural Territories

"Diljan national park" is in this area but it is is rather distant from the territories of work implementation and will not be influenced in the result of the work.

As it is mentioned in the previous chapter there are no specially protected areas, forests, monuments and areas of cultural value in the territories immediately close to the working sites or settlements included in the framework of the project.

The designed works for the territory mainly include reconstruction and rehabilitation works for separate sections of water suply and wastewater systems.

The collection of the preliminary research data was conducted implementing the following questioneery.

B1. **Are any of the following areas located inside or around the village or project site?**

		Yes	**No**	**Not identified**
B1.1	National park, protected area designated by the government (coast line, wetlands, reserved area for ethnic or indigenous people, cultural heritage), and areas being considered for national parks or protected areas	1	2	3
B1.2	Virgin forests, tropical forests	1	2	3
B1.3	Ecological important habitat areas (coral reef, mangrove wetland, tidal flats)	1	2	3
B 1.4	Habitat of valuable species protected by domestic laws or international treaties	1	2	3
B 1.5	Likely salts cumulus or soil erosion areas on a massive scale	1	2	3

B 1.6	Remarkable desertification trend areas	1	2	3
B 1.7	Archaeological, historical or cultural valuable areas	1	2	3
B 1.8	Living areas of ethnic, indigenous people or nomads who have a traditional lifestyle or special socially valuable areas	1	2	3

1.5 Environmental Impact

The impact of the foreseen activities on the environment is conditioned by the emission of costruction waste and withdrawals during implementation of the building-construction works.

However the volumes of the designed works cannot create such amount of soil and construction wastes the transportation of which will have impact on the environment.

The impact on the hydro resources is conditioned by increase of the water-supply volumes,but it will be implemented on behalf of decrease of water losses and rehabilitation of water disbursing network. Relevantly extra water volumes will not be engaged thus leaving the water balance of the territory unchanged. The impact during implementation of building-construction works is conditioned by moviof the soil masses and its storage.

Most of the soil is used for backfill. The rest of it as well as the construction wastes will be implemented to level the area. The remainder will be transported to the special area arranged by the agreement with the community heaad. Noise is reproducted when implementing building-construction works which is to be situated within the sanitary norm limits.