FINAL ENVIRONMENTAL AND SOCIAL REVIEW CHECKLIST

Micro-project title: Reconstruction of water supply system in Varagavan Community

Micro-project #: TTV-12

Is the Environmental and Social Management Plan (ESMP) developed?

Yes + No _____

Does ESMP provide a full list of potential impacts and establish adequate measures for their mitigation?

Yes + No _____

Conclusion of the Final Environmental and Social Assessment

<table>
<thead>
<tr>
<th>Conclusion</th>
<th>Micro-project approved (environmental assessment completed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-project rejected</td>
<td>+</td>
</tr>
</tbody>
</table>
**PART A: GENERAL PROJECT AND SITE INFORMATION**

<table>
<thead>
<tr>
<th>INSTITUTIONAL &amp; ADMINISTRATIVE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Micro-project number and title</strong></td>
<td>TTV-12 Reconstruction of water supply system</td>
</tr>
<tr>
<td><strong>Municipality, community</strong></td>
<td>Tavushi marz, Varagavan community</td>
</tr>
</tbody>
</table>
| **Scope of site-specific activity** | Water is supplied to the village with four main water pipes.  
1. Water is supplied to eastern part of the village (55 houses) with 2.2km long water pipe. 0.7km part of the water pipe is constructed with d=63mm diameter plastic tubes which connects the water pipe constructed with d=100mm plastic tubes, deriving from the main pipeline of "Mamkhut". The water accumulates 70 cubic meter DDR and then passes on to - 1.3km long distribution network. Two catchments of the main pipeline of "Mamkhut" are dilapidated. The sources do not have sanitary zones. Several segments of the pipeline and distribution network are in an emergency condition. Initial segment of the pipeline runs through the forest area. The DDR is damaged. It is situated in the range of plots and earth roads and there's no sanitary zone of the relevant dimensions. DRR restoration is envisaged by the micro-project which is the only intervention to this system envisaged under the micro-project.  
2. The water from the "Blblan" and "Novavor" pipelines reach 70 cubic meter DRR from which about 50 houses of the eastern part of the village are supplied. The DRR was constructed in 1970, the water pipe - in 2002 with polyethylene pipes. No rehabilitation works will be carried out, since the system is in an acceptable condition.  
3. The water deriving from the "Taguhi" pipeline with d=63mm diameter and 2.5m length, supplies the reservoir near the House of Culture from which it is distributed to 30-35 houses. The water pipe was constructed in 2002 with plastic tubes. No rehabilitation works will be carried out, since the system is in normal condition.  
4. The system fed by water from "Small Dalkhan" pipeline will be restored under this micro-project. This will imply reconstruction of water intakes, water pipe, construction of a new DRR, distribution network and sanitary zones. |

<table>
<thead>
<tr>
<th>Institutional arrangements (WB)</th>
<th>Task Team Leader: Erkin Mamadaliev</th>
<th>Safeguards Specialist: Darejan Kapanadze - Environment Sophia Georgieva - Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation arrangements (RoA)</td>
<td>Implementing entity: ATDF</td>
<td>Works Supervisor: &quot;GAS&quot; LTD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SITE DESCRIPTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name of institution whose premises are to be rehabilitated</strong></td>
<td>Water Department of Tavush marzpetaran (regional governor office), Varagavan potable water pipeline non-profit organization</td>
</tr>
<tr>
<td><strong>Address and site location</strong></td>
<td>Address: Tavushi marz, Varagavan village.</td>
</tr>
<tr>
<td><strong>Who owns the land?</strong></td>
<td>The proposed land plots for reconstruction of water supply pipes are the property of the Varagavan Community according to the legal decision of land allocation N 18A, 05.24.2016. The allocated land is the 0.4 hectare’s land plot.</td>
</tr>
<tr>
<td><strong>Description of physical and natural environment around the site (see maps and photo annex 1)</strong></td>
<td>The whole route of the pipelines is passing through the lands which are property of the Community. The proposed land is not used by any private household; there are no structures, crops, trees or business in the proposed site. The surrounding area next to the route of the pipelines do not include private lands or traffic roads, thus restricted access to roads and private property and disruption of local traffic is not anticipated. There are no subterranean networks across the route of the pipelines.</td>
</tr>
</tbody>
</table>
During the construction works no tree removal is intended. Endemic species and plants do not exist across the land plot provided for the construction works. Geological conditions are favorable for construction works. Physical-geological phenomena do not exist in the area. The ground waters are located deeper than the pipelines are proposed to be constructed. The precipitations in the area generally have surface flood, and only the part of the water penetrate through the minerals and soil. The natural relief and landscape will be recovered after construction works.

**LEGISLATION**

<table>
<thead>
<tr>
<th>National &amp; local legislation &amp; permits that apply to project activity</th>
<th>Construction of a new potable water pipeline is not subject to the Environmental Impact Assessment and to the issuance of the expert environmental review conclusion. According to the Armenian legislation, the following permissions are required for this micro-project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) The chemical and bacteriological analysis of the source</td>
<td>(a) The chemical and bacteriological analysis of the source</td>
</tr>
<tr>
<td>(b) Hydrogeological conclusion is not required, because potable water is supplied to the community through the existing main pipelines.</td>
<td>(b) Hydrogeological conclusion is not required, because potable water is supplied to the community through the existing main pipelines.</td>
</tr>
<tr>
<td>(c) Special permission of water use is not required, because potable water is supplied to the community through the existing main pipelines.</td>
<td>(c) Special permission of water use is not required, because potable water is supplied to the community through the existing main pipelines.</td>
</tr>
<tr>
<td>(d) Land allocation for sanitarian areas around captiations and pipeline.</td>
<td>(d) Land allocation for sanitarian areas around captiations and pipeline.</td>
</tr>
<tr>
<td>(e) Construction permit (to be obtained)</td>
<td>(e) Construction permit (to be obtained)</td>
</tr>
</tbody>
</table>

**PUBLIC CONSULTATION**

| When / where the public consultation process will take / took place | Public consultation was carried out in the village of Varagavan on 07.08.2016. |

**ATTACHMENTS**

- Attachment 1: Photos and plan of the construction site
- Attachment 2: Minutes of Public Consultation on the draft ESMP
- Attachment 3: Agreement for Waste Disposal
- Attachment 4: Land Allocation Document
- Attachment 5: Chemical and Bacteriological Analysis
- Attachment 6. Copy of a Construction Permit
## ENVIRONMENTAL /SOCIAL SCREENING

<table>
<thead>
<tr>
<th>Activity/Issue</th>
<th>Status</th>
<th>Triggered Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Reconstruction of water supply system</td>
<td>[+ Yes ] No</td>
<td>See Section A below</td>
</tr>
<tr>
<td>B. New construction</td>
<td>[ ] Yes [ ] No</td>
<td>See Section A below</td>
</tr>
<tr>
<td>C. Individual wastewater treatment system</td>
<td>[ ] Yes [+] No</td>
<td>See Section B below</td>
</tr>
<tr>
<td>D. Historic building(s) and districts</td>
<td>[ ] Yes [+] No</td>
<td>See Section C below</td>
</tr>
<tr>
<td>E. Acquisition of land¹</td>
<td>[ ] Yes [+] No</td>
<td>See Section D below</td>
</tr>
<tr>
<td>F. Hazardous or toxic materials²</td>
<td>[ ] Yes [+] No</td>
<td>See Section E below</td>
</tr>
<tr>
<td>G. Impacts on forests and/or protected areas</td>
<td>[ ] Yes [+] No</td>
<td>See Section F below</td>
</tr>
<tr>
<td>H. Handling / management of medical waste</td>
<td>[ ] Yes [+] No</td>
<td>See Section G below</td>
</tr>
<tr>
<td>I. Traffic and Pedestrian Safety</td>
<td>[ ] Yes [+] No</td>
<td>See Section H below</td>
</tr>
</tbody>
</table>

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¹ Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (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 C: MITIGATION MEASURES

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>MITIGATION MEASURES (provide costs where applicable)</th>
</tr>
</thead>
</table>
| **0. General Conditions**      | Notification and Worker Safety   | (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 media and/or at publicly accessible sites (including the site of the works)  
(c) All legally required permits have been acquired for construction  
(d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring 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 of the sites will inform workers of key rules and regulations to follow. |
| **A. General Construction Activities** | Air Quality                      | (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  
(c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site  
(d) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust  
(e) There will be no open burning of construction / waste material at the site  
(f) There will be no excessive idling of construction vehicles at sites |
|                                | Noise                            | (a) Construction noise will be limited to restricted times agreed to in the permit  
(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 |
|                                | 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                 | (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.  
(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.  
(c) Construction waste will be collected and disposed properly by licensed collectors  
(d) The records of waste disposal will be maintained as proof for proper management as designed.  
(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos) |
| **B. Individual wastewater treatment system** | Water Quality                   | (a) The approach to handling sanitary wastes and wastewater from building sites must be approved by the local authorities  
(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  
(c) Monitoring of new wastewater systems (before/after) will be carried out  
(d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies. |
| **C. Historic building(s)**    | Cultural Heritage                | (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.  
(b) It shall be ensured that provisions are put in place so that artifacts 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. |
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PARAMETER</th>
<th>MITIGATION MEASURES CHECKLIST</th>
</tr>
</thead>
</table>
| D. Acquisition of land | Land Acquisition Plan/Framework | (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.  
(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented |
| E. Toxic Materials | Asbestos management | (a) If asbestos is located on the project site, it shall be marked clearly as hazardous material  
(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure  
(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust  
(d) Asbestos will be handled and disposed by skilled & experienced professionals  
(e) If asbestos material is 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.  
(f) The removed asbestos will not be reused |
| | Toxic / hazardous waste management | (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  
(b) The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching  
(c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.  
(d) Paints with toxic ingredients or solvents or lead-based paints will not be used |
| F. Affected forests, wetlands and/or protected areas | Protection | (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.  
(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  
(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  
(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. |
| G. Disposal of medical waste | Infrastructure for medical waste management | (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:  
▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal; and  
▪ Appropriate storage facilities for medical waste are in place; and  
▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational |
| H Traffic and Pedestrian Safety | Direct or indirect hazards to public traffic and pedestrians by construction activities | (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  
▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards  
▪ 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.  
▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement  
▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public.  
▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. |
Environmental Monitoring Plan for construction and operation phases.

<table>
<thead>
<tr>
<th>Activity</th>
<th>What (Is the parameter to be monitored?)</th>
<th>Where (Is the parameter to be monitored?)</th>
<th>How (Define the frequency / or continuous?)</th>
<th>When (Is the parameter being monitored?)</th>
<th>Why (Is the parameter being monitored?)</th>
<th>Who (Is responsible for monitoring?)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Supply of construction materials</td>
<td>Purchase of the construction materials from licensed providers</td>
<td>Offices and warehouses of material suppliers, and borrowing sites</td>
<td>Checking documents; Inspection of material quality</td>
<td>In the process of signing the agreements for material provision</td>
<td>Ensure technical quality of construction; Protect human health and environment</td>
<td>ATDF</td>
</tr>
<tr>
<td>2. Transportation of construction materials and waste</td>
<td>Technical condition of construction vehicles and machinery; Adequacy of the loading trucks for transported types of cargo, and canopy coverage of cargo transported in open trucks; Movement of construction vehicles and machinery along pre-defined routes</td>
<td>Routes for transportatio of construction materials and construction wastes</td>
<td>Inspection of roads adjacent to the construction site and included in the agreed-upon routes of transportation</td>
<td>Unannounce d checks during the working hours</td>
<td>Avoid air and road pollution with dust and solid matter; Reduce traffic disruption</td>
<td>ATDF, Municipality of the village of Varagavan</td>
</tr>
<tr>
<td>3. Generation of construction waste</td>
<td>Temporary storage of inert and hazardous wastes separately at the Construction site and base (if applicable); Locations</td>
<td>Checking documents; Visual observation</td>
<td>Entire period of construction</td>
<td>Avoid pollution of the environment</td>
<td>ATDF, Municipality of the village of Varagavan</td>
<td></td>
</tr>
<tr>
<td>4. Accumulation of household waste</td>
<td>Provision of waste containers on-site; Agreement with local municipality for regular out-transporting of waste</td>
<td>Construction site and base (if applicable)</td>
<td>Visual inspection</td>
<td>Entire period of construction</td>
<td>Avoid pollution of soil and water with household waste</td>
<td>ATDF, Municipality of the village of Varagavan</td>
</tr>
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</tr>
<tr>
<td>5. Safety of labor</td>
<td>Provision of uniforms and protective gear to the contractor’s personnel and enforcement of their use by contractor; Consistency with the rules of exploitation of the construction equipment and usage of private safety means</td>
<td>Construction site</td>
<td>Inspection of the activities</td>
<td>Entire period of construction</td>
<td>Reduce the probability of accidents</td>
<td>ATDF</td>
</tr>
<tr>
<td>6. Undertaking works within the settlement</td>
<td>Deparkation and fencing of work site; Timely backfilling of soil once pipes are laid in trenches; No parking of construction vehicles and machinery outside work site the way</td>
<td>Construction site and nearly area</td>
<td>Visual inspection</td>
<td>Entire period of construction</td>
<td>Reduce disruption of movement around the work site and decrease probability of accidents</td>
<td>ATDF, Municipality of the village of Varagavan</td>
</tr>
</tbody>
</table>
impeding free passage of traffic and pedestrians;  
No piling and no scattering of construction materials and waste outside the work site

<table>
<thead>
<tr>
<th>OPERATION PHASE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Ensuring smooth operation of water intakes, DDRs and pipeline</strong></td>
</tr>
<tr>
<td><strong>2. Ensuring quality of potable water supplied to the village</strong></td>
</tr>
</tbody>
</table>
Attachment 1: Photos and Plan of the Construction Site
Attachment 2: Minutes of Public Consultation on draft ESMP

MINUTES

Of Public Consultations
on draft Environmental and Social Management Plan
for the Reconstruction of water supply system
in Varagavan Community

A stakeholder consultation meeting on the draft Environmental and Social Management Plan (ESMP) for the construction of a Reconstruction of water supply system in Varagavan Community was held on July 8 in Varagavan, Tavushi Marz.

The announcement for the meeting in Armenian and English languages, including its date and time, was disclosed on the ATDF web page (www.atdf.am). Information on the meeting day and time was posted on information boards of Varagavan Community Administration Office; in addition, the Administration conducted telephone calls to ensure participants’ attendance.

The public consultation was carried out by ATDF Environmental Specialist Asya Osipova. 23 participants were present at the meeting, among which 4 women.

At the very beginning, Head of the Community Mr. A. Abrahamyan introduced the main purpose of the consultation and ATDF specialists.

A. Osipova introduced the main purpose as well as World Bank requirements and Armenian legislation on conducting environmental and social assessment. She introduced ESMP for the construction of a Reconstruction of water supply system in Varagavan Community and outlined likely negative environmental impacts related to the Micro-project implementation. These include pollution of air, generation of construction waste.

Ms. Osipova explained what measures ATDF will apply to mitigate possible negative impacts, including construction waste transportation. It was mentioned that ESMP covers the issue of the transportation and disposal of construction wastes and excessive soil.

Since the construction site is located far from the Community, A. Osipova outlined that disturbance to community life due to construction activities is not anticipated. Technical supervisors on monthly basis will keep under control the fulfillment of all the environmental mitigation measures included in ESMP, and report the deviations to ATDF.

A. Osipova presented the main provisions of the ESMF concerning to the social aspects of the Project. She talked about possible social risks and ways of their mitigation. She emphasized that the project does not involve any resettlement as proposed area of the construction is public property; however she briefly introduced key features of Resettlement Policy Framework.

A. Osipova talked also about main socio-economic challenges including engagement of women, youth and vulnerable groups in distribution of benefits. She outlined that these groups should have
equal opportunities to be engaged in project benefits. The concept was welcomed by participants, who suggested involve constructors from the Community mentioning that it will reduce unemployment in Community and labor immigration for seasonal works.

A.Osipova informed the beneficiaries that they also have the option to contact ATDF directly to communicate their grievance if they are unable to, or do not wish to, go through the PIC grievance focal point. A.Osipova explained all the cannels of grievance submission involving e-mail address, hot line telephone number, postal address and web-site link and outlined that ATDF contact information is referred on the booklets delivered to the participants, as well as on the information desk already available in public visible places in the Community. A.Osipova introduced that information on Micro-project details permanently will be available on the information desks, as well as on-going announcements and references. She outlined that these will support in raising public awareness and early identification, assessment and resolution of complaints on Project activities.

A.Osipova outlined that the community currently has several essential issues. Particularly the majority of the households are socially disadvantaged. The residents have lack of financial resources to construct new houses for growing families. That is the reason why youth escape to marry which leads to demographic issues. Mr. A.Abrahamyan said that seasonal migration is also essential issue in the Community.

List of participants
Photos of Public Consultation
Attachment 3: Copy of an agreement for construction waste disposal

Non-official translation of the above attached document:

This is to inform you, that within the framework of construction of potable water supply system in Varagavan Community:

1. Excess material (soil), if any, will be taken from the area 2 km far from the construction site, the area name is Magoyi Yal land plot.
2. The generated construction waste will be transported to the waste dump located 3 km away from the site, the site name is Asperanti land plot.
3. The temporary dump of the soil is not determined.

Head of Community (signed) A. Abrahanyan

Agreement on the disposal of excess material Agreement on the disposal of construction waste
Non-official translation of the above attached document:

Community Council of Varagavan Community RA

Decree

24 May, 2016 Number 18-A

On land allocation of the purpose of potable water pipeline construction by ATDF

According to the 38th point of 2nd part of 16th article of law on Local Self-Government and 1st point of 1st part of 75th article of Land Code of the Republic of Armenia, and support by the Head of the Community, the Community Council of Varagavan Community.

Made a decision - Allocate 0.4 hectare’s land plot which is Community property to carry out the construction drinking water supply system and as sanitation zone in Varagavan Community within the framework of Social Investment and Local Development Project implemented by Armenian Territorial Development Fund.

Head of Community (signed) A. Abrahamyan
PROTOCOL 5
UPON SANITARY-BACTERIOLOGICAL SURVEY OF DRINKING WATER SAMPLE
Tavush region, village Varagavan

1. Indicators of bacteriological survey of water are compliant with norms.

2. Indicators of bacteriological survey of water are compliant with all norms, including requirements of appendix 4.
Non-official translation of the above attached document

Republic of Armenia
Tavush Region, Community Varagavan
Construction Permit N 1, 15.09.2016
This is given for the Construction Project of the Reconstruction of water supply system in Varagavan Community

The design documents are developed by “GAS” LTD

A. Abovyan  Sealed/Signed