

The Assessment of Water, Sanitary, and Hygienic Conditions in the Kvemo Kartli Region

Final Report

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Goal of the assessment

The main objective of the assessment was to evaluate water, sanitary, and hygienic (WASH) conditions in three previously selected locations in the Kvemo Kartli region (Dmanisi and Tsalka municipalities), and to develop recommendations in order to solve the problems and challenges identified. The assessment was conducted within the framework of the ongoing project, Georgia Community WASH Initiative (GC-WASH), implemented by CENN and funded by the Global Water Challenge.

Target locations, work plan, and schedule and implementation deadlines

The assessment of water, sanitary, and hygienic conditions was implemented in three settlements in the Kvemo Kartli region. Two of the locations were at secondary schools: a public school in the village Avranlo in Tsalka municipality, and a junior public school in the village Velispiri in Dmanisi municipality. The third location was at a shelter for eco-migrants/vulnerable people in a former hospital in Dmanisi municipality. In total, 11 working days were allocated to assess the water, sanitary, and hygienic conditions of the aforementioned locations. Specific tasks were conducted according to the chart below:

	Task	Duration (in days)
1	Developing a technical assessment methodology and preparing a questionnaire	1
2	Technical assessment in the regions: 3 locations, 2 working days per each location	6
3	Preparing the report	4
	Total	11

According to the contract, work for the assessment began on December 19, 2017 and concluded on January 18, 2018.

Study methodology and design

Data collected on water, sanitary, and hygienic conditions in areas populated by vulnerable groups (i.e., eco-migrants and socially-disadvantaged people) were collected focusing on five major issues.

The study included quantitative and partially qualitative components. Specifically, the global assessment and monitoring methodology for water, sanitary, and hygienic conditions (WASH), developed by UNICEF, was applied at schools comprising two main focus areas: 1) face-to-face interviews with school directors/administrators, and 2) assessing school infrastructure and observing the hygienic behaviour of students. Factors considered in the assessment include region, the type of settlement (city/village), ethnicity (i.e., Georgians and non-Georgians), and student disabilities.

Thus, the questionnaire was developed in accordance with WASH methodology and included the following main issues: water, sanitation, hygiene, waste, and operation.

Water: sources of water supply, water safety, water quantity, and water availability for vulnerable groups.

Sanitation: Number of Bathrooms, location, distribution and availability of lavatories (outhouses) separated by gender and for vulnerable groups.

Hygiene: quantity and distribution of wash basins, availability of soap and toilet paper, and good hygienic practices at school.

Waste: collection of solid waste and outflow of waste water.

Operation: serviceability of water supply facilities; serviceability and cleanliness of sanitation facilities.

Identifying the differences in sanitary and hygienic conditions in different schools by school location, student composition and regional distinctions was an important objective within the study. Also, the availability of water and sanitation facilities for ethnic minority children was especially emphasized. Such conditions for schoolchildren with disabilities were evaluated in a separate section of the assessment.

In order to evaluate water and sanitary conditions in collective centres populated by vulnerable groups, a special manual designed by Mercy Corps (Mercy Corps – WASH Guidelines) was also utilized. An assessor evaluated the water and sanitary conditions in the target locations and made some changes to the questionnaire so that it better reflected the existing situation in the villages. However, the following sections in the questionnaire remained unchanged: Sanitation, Hygiene, Waste, and Operation.

The questionnaires were formulated to properly process the results. Interviews with managers were conducted separately from the questionnaires. The following key results and recommendations for improving the present conditions in the target locations were prepared through data processing.

The following chapters were included in the final assessment report:

- Goal of the assessment
- Target locations, work plan, schedule and implementation deadlines
- Study methodology and design
- General requirements of water, sanitation and hygiene at schools
- Hygienic parameters of drinkable water quality
- General requirements for water supply at school
- General requirements for the provision of cleaning and waste management
- General requirements for the provision of sanitary and hygienic conditions at school
- Key findings of the assessment and recommendations:
 1. Avranlo Public School
 2. Velispiri Junior Public School
 3. A shelter in the territory of a former Dmanisi hospital
- Annexes

General requirements of water, sanitation and hygiene at schools

School buildings in Georgia, according to water supply and sewage systems, are divided into two conditional categories: A and B. The A category includes all schools located in a city, district centre, big village or any other place where a central water supply and sewage system operates. The B category includes all schools located in mountainous areas, small villages or any other place with no central water supply and sewage system.

B category schools are divided into two groups:

Group I – school buildings in which internal toilet facilities could be constructed according to current standards.

Group II – school buildings in which the construction of internal toilet facilities is inconvenient or impossible because of the school's design.

The schools that we have assessed fall under the B category, Group II. Providing all B category schools with drinkable/washing water is a mandatory requirement. Drinkable water must be evaluated by competent services for drinkability in accordance with current legislation. If the above condition has been met, spring water or artesian water can be used. If the above condition is impossible, drinkable water must be supplied and duly stored in compliance with hygienic conditions.

An artesian well must be reinforced and protected from the outside from any kind of contamination. Periodically, the appropriate services must check the water for drinkability (especially in the case of floods and other natural disasters). Rain water collected in a storage basin could be used for the maintenance of toilet facilities, although this water cannot be used for drinking or hand washing purposes.

Hygienic parameters of drinkable water

Risks related to the consumption of untreated and unclean water could lead to possible short-term or long-term consequences. Long-term microbial risk is due to regular and continuous consumption of water contaminated with virulent microorganisms.

Drinking water used at school must be in compliance with the requirements established by the Order of the Minister of Labour, Health and Social Affairs of Georgia. The Approval of Technical Regulation on Drinkable Water was formulated by the Order of the Minister of Labour, Health and Social Affairs of Georgia #349/n dated on December 17, 2007. It determines the following indicators and specified values for the quality of drinkable water:

- Organoleptic indicators
- Microbiologic, virologic and parasitologic indicators
- Chemical indicators (i.e. general indicators, non-organic and organic substances)
- Radiation safety indicators
- Norms of detrimental chemical substances generated as a result of water treatment processes

The following requirements are established by the Regulation:

- Drinkable water must be safe with no epidemic and radiation risks, harmless in its chemical composition, and have favourable organoleptic qualities.
- Drinkable water quality must comply with the sanitary norms established by this Technical Regulation.
- The existence of water organisms and surface membranes is unacceptable in drinking water.
- The epidemic safety of drinkable water is determined by compliance with norms established by the rules of microbiologic, virologic and parasitological indicators.

General requirements for water supply at school

- A school must have a drinkable and domestic water supply system.

- The school water supply system must provide a safe and adequate supply of water for drinking and usage (i.e. hand washing, food preparation, flushing the toilet, cleaning, etc.).
- Water used for drinking purposes at school must be safe for health and its quality should comply with the requirements set forth by the Approval of Technical Regulation on Drinkable Water formulated by the Order of the Minister of Labour, Health and Social Affairs of Georgia #349/n dated on December 17, 2007.

Quality control of the water provided at school must be implemented in accordance with the procedure established by the Approval of Technical Regulation on Drinkable Water formulated by the Order of the Minister of Labour, Health and Social Affairs of Georgia #349/n dated on December 17, 2007.

- In the case of a non-existent centralized water supply system or interrupted water supply, the school should, by all means, have access to a water reservoir (tank).
- The water reservoir must be a closed tank of adequate volume, which should be periodically cleaned and disinfected.
- For checking the periodicity of water reservoir treatment, the conducted works must be duly recorded in an appropriate journal.
- Water reservoir treatment must take place on a monthly basis, while drinkable water in the reservoir must be replaced once every 48 hours.
- To conduct water reservoir disinfection, a disinfectant registered by the Ministry of Labour, Health and Social Affairs of Georgia must be applied.
- A well can be a source of water, which also requires adherence to the sanitary rules of disposal, maintenance, safety and hygiene norms. Particularly:
 - a) A well must be located at least 30 m away from any source of contamination (e.g., an outside toilet);
 - b) It is unacceptable to apply pesticides within a radius of 100 m from the well;
 - c) A well must be continuously checked for structural integrity;
 - d) A fence must be set up around the well to protect it from animals;
 - e) A drainage system must be installed around the well to avoid contamination with surface and spilled water;
 - f) Vessels used for water extraction must be kept in clean conditions;
 - g) A well must have a cover.
- A school must have properly equipped drinkable water locations available for students and school personnel, including persons with disabilities.
- Providing drinkable water is acceptable using dispensers, drinking fountains or water containers. Furthermore:
 - a) Water containers must be washed on a daily basis or when it is emptied;
 - b) Water containers must have a tight lid;
 - c) Water containers must be placed on a table or a shelf and not on the floor.
- Water dispensers must have disposable glasses, while the tank of the water dispenser must periodically undergo rinsing and disinfection.
- To ensure microbiological safety of drinkable water, the school administration must conduct the disinfection of drinkable water provided from an unprotected source.
- The water treatment process of drinkable water at school must be conducted using the methods and procedures established by Georgian legislation.
- The provision of an adequate amount of high-quality water must be ensured in the school budget.

General requirements to ensure sanitary and hygienic conditions at school

The school lavatory must be adequately equipped, convenient, private, protected, clean, and available for school students and personnel to use, including persons with disabilities. As our assessment includes schools in the B category, Group II, listed below are key requirements for them:

- For schools in the B category, Group II, outer toilet facilities must be constructed above the septic tank or in a separate building connected to the septic tank by a pipeline.
- Outer toilet facilities must be at least 20 meters and no more than 100 meters away from the school building or playground. The distance between wells and water supply sources must be 30-50 m.
- Outer toilet facilities must by all means have:
 - a) Sanitary septic tank with a waterproof bottom, walls and roof;
 - b) Air-duct equipped with an insect-repellent net;
 - c) Natural and artificial lighting;
 - d) Wash basin;
 - e) Paved path to the lavatory;
 - f) Privacy and protection must be ensured at school lavatories.
- At schools with no continuous water supply, a storage tank should be installed for the provision of toilet facilities with a water supply.
- In the villages and in the areas with no water supply and drainage systems, outhouses must be constructed in compliance with sanitary rules and hygiene requirements.
- Cleaning and checking of technical feasibility must be routinely conducted at school to ensure availability of clean and functioning lavatories for students and school personnel.
- The school administration must establish the procedure and periodical cleaning of toilets, as well as provide the equipment used for cleaning and the list of disinfectants in use.
- When cleaning toilet facilities, properly labelled equipment specially designed for this purpose must be applied, stored separately and subject to treatment at the end of each working day.
- Household chemicals and disinfectants used for cleaning schoolrooms must be stored in a specially designated locked closet/case in the original packaging so that it can be differentiated by labels and is unavailable to unauthorized personnel.
- The annual school budget must include the costs of cleaning toilet facilities and their provision with soap and means of hand-drying.

General requirements for cleaning and the provision of waste management

- School area must be cleaned daily and waste must be collected and disposed of into waste bins with lids located in the schoolyard, 25-30 m away from the school building.
- Daily collection of solid waste in the classrooms, kitchen, administrative and other rooms and its safe removal from school facilities must be ensured on a daily basis.
- Emptying the waste bins must consistently take place to avoid overflowing rubbish.
- To avoid rotting waste and decomposition, containers should be removed daily from the school area, especially in warmer periods of the year. Waste bins must be washed and disinfected monthly (by a 10% solution of chloride lime for 60 minutes, or any other appropriate disinfectant).
- Safe and periodic waste water removal/disposal and emptying of septic tanks must be ensured at school.
- Periodic treatment and disinfection of waste bin locations as well as warehouses and basements to prevent the spread of insects and rodents.

Key findings of the assessment and recommendations

1. Public School in the village of Avranlo (Tsalka Municipality)

A senior high school operates in the village of Avranlo. 115 students (64 boys and 51 girls) were enrolled in school by the time of assessment, including 19 representatives of ethnic minorities (i.e. Greeks, Armenians, Ossetians). There were 20 teachers at the school, including 7 men and 13 women.



Current problems:

1. All significant problems concerning sanitary and hygienic conditions are related to the situation in the lavatories. There is a “pit-type” lavatory in the area outside of school including three units in a row for boys, a separate one for teachers, and a separate one for girls. The toilet is not adapted for people with disabilities and younger children. The sanitary conditions of the existing lavatories in no way complies with the existing sanitary standards - it is not built with tile, which would make it possible to clean it, and is never disinfected at all. Furthermore, village residents also use the school lavatory apart from the students, staff, as the school area is not enclosed, and a ceremonial hall operates close to school.



2. The school area is not enclosed which makes it possible for intruders to freely access and pollute the area, contributing to the already poor sanitary conditions of the yard.



3. There are no hand-washing facilities near the lavatory (no water supply is put in place). Hand washing is only possible in the school building (2 units) and in the yard in front of the school. These water points are at a distance from the toilets and are mainly used to drink water and not to wash hands. This is proved by the fact that there is absolutely no soap (solid or liquid) near the wash basins.

4. It is unlikely that the water quality is safe for health. According to the school administration, the water is undrinkable based on its bacteriological data. In addition, school students use utensils of common use for drinking purposes which contributes to the spread of infections. Based on the aforementioned reasons, intestinal infectious diseases are commonplace among school students (these are mainly accompanied by diarrhoea).



5. The school has no special program for teaching hygiene issues. In general, this is not considered to be a priority as made clear by the complete disregard towards the issue in the school's strategical development plan. Not a single sentence mentions the water and sanitation problems at school or any potential solutions. Besides, no teachers or students had any training concerning sanitation and hygiene. During the visit, no printed materials (i.e. leaflets, booklets, brochures) were found on the topic. Only occasionally a teacher will discuss hygiene-related issues with students, but it may or may not be comprehensive.

6. Based on the above, it comes as no surprise that on the visit day, classroom furniture and equipment were dusty and dirty. Students had various complaints about the dust (e.g., rashes on their face, coughing, sneezing). There is only one cleaning person at school, an elderly man, which the school is struggling to support due to a low monthly salary (120 GEL). The school is funded by a voucher system and falls under the category of schools with a contingent of 1-169. Since schools of the abovementioned contingent are evenly funded, the schools with relatively fewer students and teachers have a higher education (since a teacher with a higher education is entitled to a higher salary). In this regard, Avranlo's public school has relatively unfavourable conditions. It should be noted that the existing bureaucratic barriers are often problematic for

the school which fails to manage its scarce funds in an efficient manner and as needed. The school finds it difficult to implement desirable purchases in a timely manner and instead of incurring costs based on school needs, a balance remains (this was the case both in 2015 and 2016).

7. An illegal landfill where village residents dump their solid household waste is located on the school premises, which creates significant unsanitary conditions in the territory. The school itself disposes and burns waste on its own territory almost on a daily basis (based on word of mouth). There is only one waste container in the school building.



8. Children hardly eat at all during the school day. There is no school cafeteria. Some of the students buy dry food like chips, which is not a healthy option. Others also try not to drink water at school. Such conditions from morning until late in the afternoon is completely unacceptable and will have an adverse impact on their health in the long-term.

9. The school administration has no relevant information on the organizations responsible for the maintenance of water supply functioning and timely repair of any system breakdown as well as on organizations responsible for sanitary conditions.

Other than at schools, meetings were also held with the leaders of Tsalka Municipality (Mayor, Deputy Mayor, Chief of Finance Department) and the Head of the Educational Resource Centre. Some topics discussed were some solutions to the problems in terms of fundraising and assigning/specifying competencies, taking into consideration the prospects for the near future. The following problems were identified during the meetings:

A centralized management system and the existing bureaucratic barriers are the key obstacles to an effective solution to the water and sanitation problems at school. This is especially true concerning the relatively low-budget infrastructure projects. Local municipalities have no opportunity to directly assign funds to implement any work within the school area or school building, as this is the domain of the Ministry of Education and Science.

- However, even in case of decentralization and abdication of school management to local municipalities, scarce financial capacities in the Tsalka District provide little opportunity for implementing infrastructure projects.
- Along with scarce funds, limited technical capabilities of local authorities are another important obstacle preventing timely identification and the solution of water and sanitation problems at schools.

Recommendations:

- Due to strict climate conditions in the region it is necessary to install toilet facilities in the school building where adequate opportunities for hand washing and proper sanitary conditions will be ensured.
- An adequate number of hand washing stations (water taps and wash basins) are to be installed near toilet facilities with some adapted for younger children and students with special needs. Soap (preferably liquid soap) must always be available near the wash basin.
- The school area needs to be fenced off in order to ensure its protection from intruders, livestock and stray dogs.
- Laboratory control of water quality must be implemented occasionally to prevent its microbial contamination and make it drinkable.
- The landfill issue needs to be solved immediately. It must be removed from the school area, and the periodic safe disposal of the school's solid waste must be provided (the school must have its waste collection schedule). It must be provided by a waste collection service and not by school personnel.
- A special educational school program about hygiene issues must be developed and become an integral part of the school curriculum. Also, the program should emphasize the importance of washing hands and using soap.
- Informational and educational materials must be developed and delivered to school students so that they can use them. It would be beneficial for the materials to be prepared not only in Georgian, but also in the ethnic minority languages that the schoolchildren study in the Kvemo Kartli region. The materials must be duly illustrated and comprehensible for students of all ages. Furthermore, a group of specialists must be trained to convey their knowledge to school teachers for the latter to be able to teach hygiene issues at a proper level. It is advisable to have these subjects covered by TV and radio and to conduct activities utilizing social networks and the web (specific websites, blogs, topical posts, Q&A, etc.).
- In order to develop hygiene education and proper skills, it will be effective to encourage and develop students' amateur art (i.e. staging children plays/sketches about hygiene topics, hanging student artwork on the walls of the school, etc.).
- It will be beneficial for competent organizations and donors to support local authorities in strengthening their technical capacities.

2. Public School in the village of Vilispiri (Dmanisi Municipality)

The school is a junior public school and is a branch of a public school in the village of Gomareti. 24 students (including 10 boys and 14 girls) are enrolled in the school, including 10 non-Georgians (Azeris). Overall, there are 11 teachers (2 men and 9 women).



Current problems:

1. The school area is not fenced off which makes it possible for intruders and livestock (and also dogs) to freely enter and litter the school area. These factors cause poor sanitary conditions and pose a threat to the school's students and staff.



2. There's a serious problem regarding toilets – there is a "pit" type lavatory with a cabin where 1 unit is located and intended for common use (both students and teachers). The lavatory is located at a 10 m distance from the school building. It is not adapted for younger and children with special needs. The existing sanitary conditions of the lavatory in no way meets the existing requirements: it is not built with tile, which would make it possible to clean it, and is not being disinfected. There are two more lavatories (pit-type/with a wooden cabin) that do not function. Furthermore, the dilapidated lavatory is open and easily accessible to children, thus posing a risk to their health.



3. Due to the lack of hand-washing facilities in the school, water is brought to school by teachers and children in dispensable plastic bottles/buckets from the water tap of a local resident living in the area adjacent to school. The area surrounding the school area is significantly contaminated with manure which poses a great risk to the school community in terms of becoming ill with an infectious disease. Also, there is a dog in the school yard that runs freely. Therefore, there is also a risk of the school's students and staff getting bitten by the dog (with a potential risk of being infected with rabies).



4. At the same time, it is unlikely that the quality of the existing water meets the drinkable water safety standards. Monitoring of headworks has demonstrated that it has been constructed in violation of sanitary rules and is absolutely exposed to contamination. This opinion is shared by the school administration who state that water is undrinkable based on its bacteriological data.
5. There is no special program at school to teach students about hygiene issues. Only occasionally a teacher will discuss hygiene-related issues with students, but it may or may not be comprehensive. There are also no printed informational materials concerning sanitation and hygiene issues providing students with information that is essential and important for their health. Thus, school students have no relevant knowledge of the rules of personal hygiene.



6. Some students (mostly younger children) bring drinkable water from home in disposable plastic (PET) bottles. As a result of the inspection during the visit, it turned out that none of the bottles were designed for drinking. Moreover, these bottles are disposable. Pouring any liquid (including water) into it is detrimental to health because of the harmful substances emitted in the bottles, especially with long-term use. The examination of children’s bottles at school clearly revealed that many of them were being used for a long period of time.
7. Throughout the school day, children eat food brought from home at the so-called “big recess” at school. As explained by teachers, they help children wash their hands before meals. Children wash their hands with the water contained in disposable plastic bottles brought from home. They do not use any soap when they wash their hands and could not find any soap at school.
8. There is no waste container at school, only a bucket for solid waste taken out by the school cleaning person to the illegal landfill in the village when it is full.
9. No sewage or drainage system is installed at school.
10. The school administration (director’s office) has no adequate information about organizations responsible for maintenance of the water supply functioning or repair of any system breakdown as well as on organizations responsible for sanitary conditions.

Within the assessment, meetings were held with the leaders of Dmanisi Municipality (Mayor, Deputy Mayor, Chief of Social Department) and the Head of the Educational Resource Centre. Discussed were the opportunities and solutions to the problems in terms of fundraising and assigning/specifying competencies, taking into consideration the prospects for the near future. Similar problems to those in Tsalka Municipality were identified in Dmanisi Municipality. Key challenges included:

- Relative inefficiency of the centralized model of the school management resulting in the failure to solve problems or in long delays.
- A scarce regional budget and few opportunities to support infrastructural projects. This is mostly true about the junior schools that are branches of public schools.
- The problem of inadequate competence in the municipality, with frequent change of personnel being one of the most significant issues. After local elections, most of the leaders were newly assigned and not aware of the sanitary problems.

Recommendations:

- Due to strict climate conditions in the region it is necessary to install toilet facilities in the school building where adequate opportunities for hand washing and proper sanitary conditions will be ensured. At the very least, the existing toilets must be repaired (all three toilets must be functioning and be differentiated: a separate toilet must be designed for teachers, another one for the boys and the other one for the girls). Also, adaptation of toilet facilities to the needs of younger children and students with special needs must be considered.
- The school area needs to be immediately fenced off in order to ensure its protection from intruders, livestock and stray dogs.
- Water must be supplied in the school area (preferably in the school building). Water must be supplied in a continuous mode and must be provided in adequate quantity and comply with drinkable water standards.
- An adequate number of hand washing capacities (water taps and wash basins) is to be installed near toilet facilities with some of those adapted to younger children and students with special needs. Soap (preferably, liquid soap) must always be available near the wash basin. There must always be some soap near the wash basins.
- Laboratory control of water quality must be implemented occasionally to prevent its microbial contamination and make it drinkable.
- The issue of collection and the safe removal of solid waste (litter) must be solved. It must be provided by a special cleaning service and not by school personnel.
- Special educational school programs concerning hygiene issues must be developed and become an integral part of the school curriculum. Also, the program should emphasize the importance of washing hands and using soap. School teachers must be duly trained in this regard.
- Informational and educational materials must be developed and distributed to school students so that they can use them. It is desirable that the materials are prepared in both Georgian, and ethnic minority languages of the schoolchildren studying at the school. The materials must be duly illustrated and comprehensible for students of all ages. Furthermore, a group of specialists must be trained to convey their knowledge to school teachers for the latter to be able to teach hygiene issues at a proper level. It is advisable to have these subjects covered by TV and radio and to conduct activities utilizing social networks and the web (specific websites, blogs, topical posts, Q&A, etc.).
- In order to develop hygiene education and proper skills, it will be effective to encourage and develop students' amateur art (i.e. staging children plays/sketches about hygiene topics, hanging student artwork on the walls of the school, etc.).
- Organizing joint activities with local municipalities regarding water and sanitation. It would be beneficial to organize joint trainings and seminars where area experts will be invited.

3. Eco-migrants shelter (17 V/ Gorgasali Street, Dmanisi, former hospital building)

Other than eco-migrants (5 families), homeless families (7 families) reside in the shelter as well. Currently, only 12 families live there (in total, 22 families are informally registered in the building). The overall size of the apartments is between 26-32 square meters (2-3 rooms). There are 45 residents in the building (including 5 children under the age of 10). On average, 3-4 people live in an apartment. Two floors are occupied for living purposes. Moving in is illegal and the local government has no firm position in regards to these families.



Current problems:

1. A simple check-up reveals that water, sanitary and hygiene conditions in the buildings do not meet the requirements/standards for a living space.
2. Residents are not supplied with adequate water. The main tap used by the majority of the residents is located in the yard (water is brought into the yard via a water pipe) where water runs down in small amounts. In addition, its organoleptic indicators mostly do not meet the water drinkability standards. Also, there are no positive results from a bacteriological study of the water.
3. Only 5 out of 22 apartments have water. Due to the scarcity of water, residents use it in turns. Due to the low pressure of the water, the residents on the second floor are hardly able to use the water in their apartment.



4. The main method of cleaning water is leaving water out for a certain period of time to let heavy weighted elements (pollutants) sink to the bottom. Rarely anyone boils water. There is no alternative source of water or a reservoir in the building.

5. Two “pit” type lavatories with wooden cabins are installed in the yard of the building and their sanitary conditions are unsatisfactory with no regular cleaning or disinfection that takes place. Lavatories were not overflowing on the day of the visit.



6. Five families also have toilet facilities in the apartments. However, their use is limited due to the scarcity of water and unfavourable sanitary and hygiene conditions were observed there.



7. Five families also have wash basins (bathrooms) in their apartments, though their regular use is also a problem due to the scarcity of water (during the visit even “solid” soap was observed near the washbasins).



8. Laundry is washed individually, mostly manually (only a few families own a washing machine), though they complain about the shortage of detergents and water.

9. There is a “solid waste” container in the yard emptied by a special collection service twice a week. The container was not overflowing on the day of visit and it was properly covered with a lid.



10. Sewage and drainage system is a major problem. Practically two days a week the sewage system is stuck and the toilets in the apartments are unusable. The residents have to wait for the sewage pipes to self-drain. The sewage collector is not properly covered. Due to lack of a drainage system, water flows into both

the common-use basement and the apartments of the first floor during heavy rains and creates conditions unfit for living.



11. Medical procedure waste, syringes, and other solid medical waste is left in the basement of the building, posing a risk to human health.
12. The conditions of the apartments fail to meet the requirements for safe and healthy living conditions (especially for infants), with inadequate heating, filth, bad odours, moisture, etc.
13. The roof of the shelter building is in dire need of repair. The integrity of the roof is breached so that rainwater pours into the building when it is raining. This factor aggravates the already poor sanitary and hygienic conditions of the building.
14. Only two families in the building own a refrigerator. Accordingly, the rules of proper food storage are violated, which is a major problem in the hot months of the year.
15. The awareness level as regards to sanitation and hygiene is low. This is clear following interviews with local residents and visits to their rooms.
16. Local residents are not properly informed as to which government agency is responsible for a functioning water supply system, improvement of sanitary conditions, maintenance and proper operation of sewage and drainage systems as well as the improvement of their living conditions.
17. There is no managing authority or any group of residents coordinating a solution of any issues in the building. Hence, residential activities are mainly chaotic and are directed at fulfilling solely private needs. At the same time, there are cases of confrontation and misunderstanding on various domestic issues among shelter dwellers. There have been intrusions of strangers into the building and occupation of presently unused rooms. However, these living spaces have already been illegally appropriated by other persons. During the visit, we were given an opportunity to talk to some of them. As they note in the conversation, they cannot move into the building because they are unable to clean up the space they've occupied, while decorations require certain time and material costs.

An additional meeting was held on the subject of the shelter with the leaders of Dmanisi Municipality (Mayor, Deputy Mayor, Chief of Social and Financial Division, representative of Local Assembly) to discuss the opportunities and ways to solve the problems in terms of fundraising and assignment/specification of competencies for potential prospects in the near future. The meeting disclosed that Municipality leadership has no accurate vision or firm position on solutions in regards to the problems of shelter residents.

However, the Dmanisi Mayor is interested in solving the issues and is looking for a way out based on success stories and analysis.

Recommendations:

Leaving the residents living under the existing conditions facing the issues without proper aid is unacceptable. Either proper living conditions should be created in the existing building, or its residents should be moved to another living situation where they will be provided with proper sanitary and hygienic conditions.

Improved conditions imply:

- Immediate removal of medical waste from the building and proper clean-up and treatment of its walls (by special service and not at their own discretion) must take place.
- Increase of water output and provision of proper amount of water supply in a continuous manner.
- Installing fully functioning sewage and drainage systems.
- Improvement of living (hygiene) conditions in the apartments (repair of the rooms, an adequate water supply, provision of toilet and hand-washing facilities/ bathrooms and proper heating, etc.).
- The roof of the building must be properly repaired.
- It is important to support shelter residents in the formulation of a steering committee. This will make problem-solving a more organized and results-oriented process. The above committee could be much more efficient in bringing up the problems of the shelter in relevant agencies and solving them in a timely manner.
- Raising awareness of local residents concerning the issues of personal hygiene and healthy lifestyle choices using relevant materials and means.
- The local municipality needs technical support in order to have better insight and to provide migrants and socially vulnerable/homeless populations with living spaces equipped with proper sanitary and hygienic conditions.

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LEPL Marneuli Public School #6 is located in between the village of Kizilaghjlo and the city of Marneuli. There are 1406 students at school and four of them (1 girl and 3 boys) are children with special needs. There are 86 teachers (80 women and 6 men) employed at the school.



Current issues

1. The main problem at school has to do with malfunctioning toilet facilities. Six toilets have been installed on all four floors of the building with a separate toilet for teachers to use. Five cleaning personnel clean all six toilets. The toilets are not adapted for children with special needs. The current sanitary situation in the toilets fail to meet the existing sanitary standards: an unpleasant odour can be smelled from the school entrance which is the result of a malfunctioning sewage system. Also, the sewage system clogs frequently making it impossible to flush, which, other than being a source of disease, makes children abstain from using the toilet.
2. Livestock (sheep) and other animals can easily access the school area because it is not enclosed. This contributes to pollution of the area and the risk of getting bitten and attacked.
3. Water is supplied to the school via pipes. Although the water is filtered in Marneuli, its safety for human health is uncertain. Both the students and the schoolchildren abstain from drinking tap water. Some children (mainly primary school students) bring bottled water to school. Also, laboratory analysis conducted in 2017 showed that water supplied to school via pipes is unsuitable for drinking.
4. The school development plan prepared annually does not discuss WASH issues. Therefore, there are no formal lessons concerning WASH. In addition, teachers have received no training on sanitary and hygienic issues. As they have mentioned, the school has received no sanitary and hygienic materials for the teachers to utilize to instruct students. Nonetheless, teachers conduct classes to schoolchildren on sanitary and hygienic issues during the class hours (40 minutes, twice a month), which has been confirmed with student interviews.
5. Time-worn doors of a classroom, cracked walls and broken furniture strike the eye during the observation. Students state this as one of the most unpleasant aspects of their school.



6. Mice are encountered at school, which are a source of numerous diseases. It is the responsibility of public health agencies to conduct deracination, which does not actually take place.
7. The school has a cafeteria, however, despite the infrequent classes on hygiene and sanitation, students cannot wash their hands before they enter the cafeteria because of the limited time during school breaks. Also, the children who bring bottled water from home use disposable plastic bottles. Their continuous use is hazardous for human health because of pollutant emissions in the bottle that occur by adding liquid to the bottle.

Meetings were also held with the Marneuli Public Health Center, the Marneuli Educational Resource Center, and the Marneuli local government (i.e. the head of local social services, the head of administration and other representatives in infrastructure service). Topics discussed at the meeting included possible solutions to the problem and fundraising possibilities, future plans, competences and responsibilities of various services:

- The Marneuli Public Health Centre has not been distributing any information related to WASH issues. However, in 2018, there is a plan to distribute educational materials.
- The school area is under the governance of the Ministry of Education and Science. Therefore, it is the responsibility of the Ministry to conduct big-budget infrastructure projects (resolving the issue of school sewage system is planned).

Recommendations:

- It is essential to eradicate gaps in the school sewage system in order to get rid of the odour and to make it possible to flush toilets.
- The school area needs to be enclosed with a fence so that livestock and intruders are unable to enter the territory.
- Laboratory analysis of the water supplied to the school should be conducted periodically in order to check its drinkability.
- Washing hands with soap must be emphasized throughout the school day. Accordingly, due consideration should be given to the duration of the break, so that children have enough time to wash their hands.
- It is essential that children be aware of the harmful effects of using disposable plastic bottles more than once.

- A special program must be developed with regard to sanitary and hygienic issues. Class time or an extracurricular class should be dedicated to it.
- Information and educational materials must be developed and distributed amongst teachers and students. The materials must be comprehensible and duly illustrated. It is recommended that the materials be prepared in ethnic minority languages as well.

2. Kizilaghjlo kindergarten (Marneuli Municipality)

During the assessment, 212 children (119 girls and 93 boys) were enrolled at the Kizilaghjlo kindergarten. Children are divided into three groups: Georgian, Georgian-Russian and Georgian-Azeri groups. 26 employees (25 women and 1 man) work at the kindergarten. There are 22 children with special needs for whom 6 teachers are specially assigned.

Current issues

1. No waste bins are installed in the village of Ghisilaghjlo. The illegal dumpsite near the kindergarten, used by the kindergarten itself, is a source of pollution.
2. Boiled water is used for drinking purposes in the kindergarten, since the latest laboratory analyses have shown that the water was undrinkable. It should also be noted that frequent consumption of boiled water negatively affects health.
3. During the observation, a damaged toilet was discovered where water ran out of it ceaselessly.



4. Resetting the electric system often takes place in the building which causes electric power outages. Such conditions could result in contamination when preparing meals in the kitchen, or some other undesirable occasion.

A meeting was held with Marneuli municipality. The head of the local social service, the head of administration, and representatives of infrastructure services attended. The condition of the illegal dumpsite was discussed at the meeting. Although a waste management plan has been approved, the issue of a container installation has not yet been determined.

Recommendations:

- Illegal dumpsites must be closed and waste bins must be installed in the village.
- A kindergarten must have its own waste bin which should be emptied by a municipal service.
- A water dispenser must be installed in the kindergarten to avoid the daily consumption of boiled water.
- An electric system should be repaired so that there are no power outages.

3. Marneuli “Elevator” Settlement

The Marneuli “Elevator” settlement (official address: 70 Elguja Street) is located 4 kilometres from Marneuli. 45 families classified as refugees, eco-migrants and socially vulnerable groups reside in the settlement, each in an apartment consisting of one or two rooms. There are 3-4 residents per apartment. Local authorities have no clear position regarding the future of the Elevator settlement and no solutions for current problems there.

Current issues

1. Observation clearly demonstrated that the condition of the Elevator settlement in no way meets acceptable living standards. There are hygiene and sanitary problems and a faulty water supply system.



2. Water supply is intermittent. There is no specific schedule that could help residents plan their hygiene and sanitary activities. Water is often drunk from the tap, though there is no bacteriological water test in place.

3. There are “pit toilets” set up in the yard of the settlement (with wooden cabins in certain cases). Some families have their own pit toilets, while other residents use common-use toilets with unacceptable sanitary conditions.



4. Local residents have to walk a long distance to the toilets which often creates discomfort, especially for younger children who find it difficult to walk in the dark or in bad weather.

5. There is a cow-house on the territory of the settlement which is a serious source of disease (i.e. fecal matter, insects, etc.) Cattle freely walk around in the yard of the Elevator settlement as well.
6. The settlement has no special container for solid waste. Litter is collected in a special bucket installed in a bunker. This factor, apart from the wandering cattle, creates unsanitary conditions and could potentially lead to the spread of serious diseases.
7. Floors of the building are cleaned by the residents themselves. The survey shows that only water and no chemical detergents are used in the cleaning process.
8. Condition of apartments (living conditions) are not safe for human health. The existing moisture, cold and uncleanness makes children and the elderly vulnerable to disease.



9. Some families have a washing machine. However, it is not known where the water from a washing-machine goes. It probably ends up on the territory of the settlement which is against all sanitary norms.
10. There is low awareness of WASH norms in the settlement.
11. There is no sewage system in the building. The building is not fit for laying sewage pipes.

A meeting was conducted with Marneuli municipality, attended by the head of local social service, head of administration and representatives from infrastructure services. The construction of new residential buildings for eco-migrants living in the settlement was on the agenda of the meeting, though it should be noted that at the moment the municipal authorities have no specific plan on how to solve the issues of the residents living at the settlement.

Recommendations

- The building is in a critical condition and unhygienic state. The residents need to change their current living environment with better WASH conditions.
- The cow-house is to be shut down or transferred to a different location which should be advocated by the municipal government.
- Elevator residents must be given access to information on hygiene and sanitation.
- The repair of the building by the solicitation of the Marneuli municipal government.
- Implementation of cleaning activities in the building and in the yard, putting into order and disinfection of the pit toilets.
- A laboratory analysis of water is to be conducted in the Elevator settlement to determine its suitability.

4. Golteti Public School (Tetrtskaro Municipality)

The Golteti Senior Public School is located in the Tetrtskaro Municipality and accommodates 51 students (the administration has no information on the number of girls and boys) and 25 teachers (3 men and 22 women).

Current issues

1. Livestock and dogs have easy access to the school territory which is not enclosed by a fence. This factor contributes to school littering and creates the risk of children getting bitten or attacked.



1. No water supply system is installed in the building, therefore the toilet is located at a 50-meter distance from school.
2. As there is no water in the toilets, water is brought to the toilet from the tap in the school yard using plastic balloons, so occasionally there is no sufficient water for flushing.
3. There is no water filtering method used as water coming from the headworks joins the village network via metal pipes. It is said in the municipality that to be on the safe side, the water supply company says no to chlorination.
4. There are no waste bins in the classrooms.
5. Children bringing water from home use disposable bottles. The long-term use of plastic disposable bottles is dangerous for health, since by adding water to the bottles, harmful substances are emitted.
6. Classrooms remain unclean unless the schoolchildren tidy them themselves. This could potentially cause various diseases and/or allergies.
7. The school has an action plan in which WASH issues are not discussed.
8. There is an open stadium in the schoolyard which is the only entertainment for village children, though it gets muddy on rainy days.



9. Water debit from the school tap is very low and is apt to frequent interruptions.
10. No educational materials have been distributed and no training has been conducted at school concerning any WASH issues.
11. Waste is accumulated in the school yard, which, taking into consideration the damaged fence, could create a risk of scattering waste all over the school territory and the potential spread of diseases.



12. During the observation, excrements and glass fragments were found in the school yard.



13. Teachers and students use shared toilets.

Recommendations

- The school area (around 1 ha) should be enclosed with a fence so that livestock is unable to enter and pollute the school yard.
- Water reservoirs are to be installed in the toilets.
- Throughout the school day an emphasis should be made on washing hands with soap. Also, the duration of a break should be given due consideration, so that children have enough time to wash their hands.
- Children must be aware of the negative effects of the multiple use of disposable bottles.
- A special program on sanitary and hygienic issues should be developed and implemented either during class hours or after school hours.
- Information and educational materials must be developed and distributed amongst teachers and schoolchildren. The materials must be comprehensible and duly illustrated. It is recommended that the materials be prepared in ethnic minority languages too.
- Teachers and students should have separate toilets. The Ministry of Education should take care of this issue.
- The school stadium should be maintained so that children avoid playing in the mud and avoid contact with standing water.
- It is strongly recommended that classrooms have waste bins in them.
- The school must be equipped with a waste container so that waste is not openly disposed of on school territory.

5. Golteti kindergarten (Tetritskaro municipality)

Golteti kindergarten is located in the far end of the village of Golteti. 18 children (11 girls and 7 boys) attend the school. During the observation, mud was spotted at the entrance of the kindergarten which limited access to it. No students with special needs attend the kindergarten.

Current issues

- Although central heating is functioning in the kindergarten, the village is not supplied with gas, so the building is heated by wood and it is cold in several rooms.



- The electric system of the kindergarten is defective, which leads to power outages and often limits the visibility of kitchen personnel.

- Children bring water in disposable plastic bottles from home, which is unacceptable.



- There is absolutely no literature on WASH issues in the kindergarten.
- Waste is illegally dumped in a dumpsite in a ravine next to the kindergarten.

Recommendations

- There should be WASH materials in the kindergarten that are visually comprehensible.
- The kindergarten should have its own waste container that will be emptied by a special service.
- The electric system should be fixed/updated so that power outages occur less frequently and there is no visibility problem.
- Children should be made aware that the use of disposable bottles is unacceptable, therefore their use must be restricted.
- The municipality should work towards installing gas in the village and kindergarten.
- Replacing firewood with briquettes.

Meetings were held with the Educational Resource Centre of the Tetrtskaro Municipality. **The issue of providing educational materials concerning sanitary and hygienic issues and providing briquettes was discussed. As it was stated at the meeting, there is no warehouse in the kindergarten that would protect briquettes from moisture, although this issue had been previously discussed. Concerning the low debit of water, it was mentioned by the municipal representatives that Karaso water pipework construction is planned (although no draft has yet been developed) providing gravity flow of the water flowing from the rock. According to initial estimates, the amount of water could provide for 7 villages, which could solve the problem of water supply of not only the 7 above-mentioned villages, but twice as many villages, as this will be added to the existing water debit that had been distributed in the aforementioned 7 villages.**