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Abstract

Since independence in the Republic of Tajikistan, many areas of public life have been restored and currently are dynamically developing. However, despite some improvement in the situation, the urban population continues to make the situation of rural women worse. The lack of sources of clean drinking water and its delivery to standard sanitary conditions near homes and poor awareness of hygiene is causing permanent damage to the health of women and children. Women play a special role in delivery, use and management of water resources in agriculture. They are also responsible for sanitary and hygienic work carried out in the community. And yet, despite the fact that the legislation of Tajikistan has not acted in accordance with national tradition in Tajikistan, women are virtually ignored in strategic decision-making.

Therefore, the problems mentioned above become an underlying reason for the activities of SAFO. SAFO identified four kinds of problems: First, a problem exists with the improvements of access for the poor women to clean drinking water. A Second problem is related to improvements of the sanitation norms in households; Third, there is a lack of hygienic knowledge and awareness. And Fourth there are difficulties with food security including expensive fertilizers.

The aim of the present work is to bring information about eco-sanitation activities and attract attention of other organizations to the sanitary problems faced in Tajikistan. Meantime, by participation in the present Dry Toilet Conference we would like to gain more knowledge about different ways of construction of dry toilets and use this knowledge in the future activities on eco-sanitation. We hope to meet more people who have interests to increase their experience to improve the ecological situation in Central Asia.

Keywords:

Ecological Sanitation in Tajikistan
Tajikistan, Central Asia
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Women's Public Organization SAFO/Tajikistan,

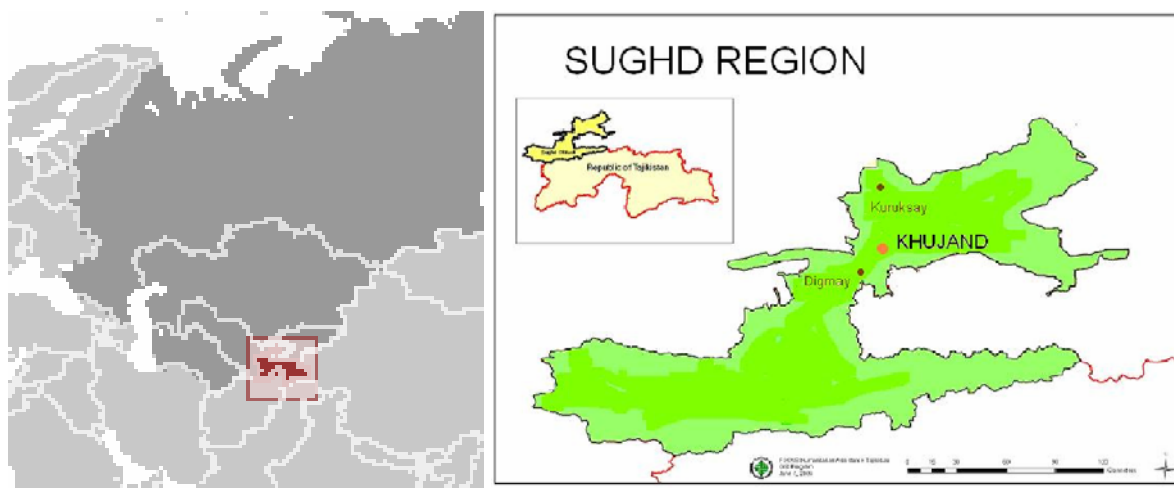
Introduction

Tajikistan is a landlocked country located in Central Asia with the area of 143 100 square meters. 93% of the country is occupied by high mountainous areas, while arable land occupies only 7% of its territory.

Being the smallest country in Central Asia, Tajikistan borders with Uzbekistan and Kyrgyzstan on the north and west, China on the east and Afghanistan on the south. The country is the

poorest state in the CIS. Tajikistan has a continental climate with significant daily and seasonal temperature fluctuations, small amount of precipitation, dry air and little cloudiness. Average temperature in the country ranges from - 20°C to 0°C in January and 0°C to +35°C in June, depending on the altitude.

The presence of mountains complicates organization of internal transport systems and communication, but provides the country with huge hydropower resources and certain types of minerals. Huge water resources enable intensive agriculture in valleys and cotton growing, which is one of the major crops the country is specialized in.



The current population in Tajikistan makes up to 7,35 million people (2009), 1,9 million of which are urban population and 5,45 million live in rural areas.

The proportion of women in the population makes up 3,695million people млн. According to structure of population, over 50% of it is represented by young people aged 0-19. According to official data, annual population growth rate is 1,8% in urban areas, and 2% in rural ones.

Tajikistan people are vulnerable to water-transmitted diseases, caused by extremely low level of sanitation and hygiene. Actual efficiency of proper sanitation and hygiene mostly depends on availability of and access to pure water. Majority of water-transmitted diseases are obtained in a fecal-oral way. To prevent these infections, a number of measures should be undertaken: adequate toilets, clean maintenance of human and animal fecal materials, as well as washing hands after defecation. Even basic hygiene is hard to be maintained in the environment where water is mostly contaminated. Availability of adequate sanitation, hygiene and sanitation-related education at schools and protection of water resources from contamination are the key factors to prevent transmission of water-caused diseases in a fecal-oral way. Latest studies show that improved water supply and sanitation, as well as increased hygiene measures like regular washing of hands may reduce the number of diarrhea cases by approximately 35 per cent.

In rural areas of Tajikistan, where only half of the population have access to high-quality water, most people use water from channels, ponds, water reservoirs and other unsafe sources.

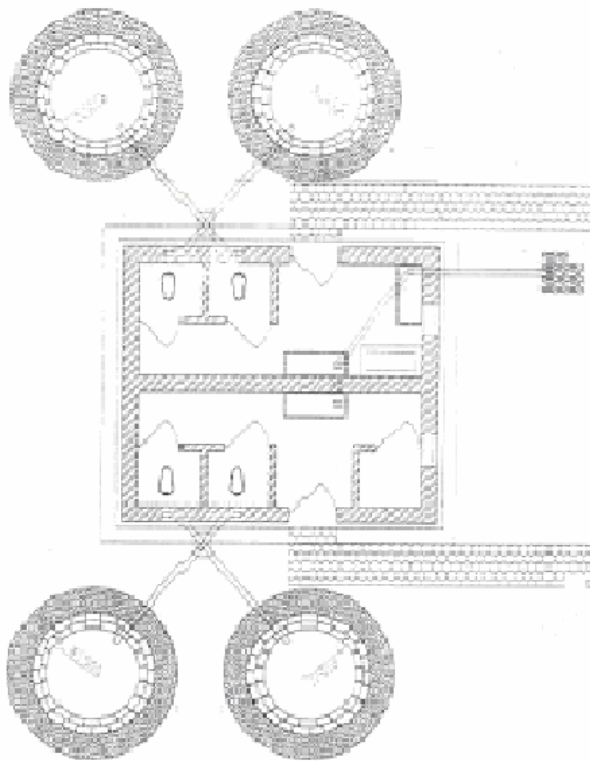
As long as sanitary conditions are concerned, almost all households use dugged holes fenced by different kinds of materials as toilets, but most of them are poorly constructed and pose an extremely high risk to public health. They mostly do not meet any sanitation norms and rules – groundwater occurrence and distance between a toilet and water source are not usually considered. A special case is the fact that around 140 schools in the country have no toilets at all.

Another negative factor to mention is the harm caused by chemical fertilizers used in agriculture. Water is widely contaminated by chemicals that negatively affect the soil, and eventually, the population's health.

The Project.

Its history.

Public Organization SAFO started its sanitation activities in 2004, which was a UNICEF financed Project "Sanitation and Hygiene Promotion through schools". The Project targeted education campaigns among teachers and school students aimed to completely change their hygiene behavior. To achieve this, the Project planned to build flush water toilets at schools and households that would prevent pollution of groundwater and improve sanitation norms. As a result, 200 teachers and around 5 thousand school students have been trained on «7 Components» within 4 years. 70 school toilets and 500 household toilets have been built by the Project. The Project covers 3 districts of Sughd region of the country.



Several years after the first Project activities, field visits to the pilot regions and schools showed that the built toilets did not prove to be the best solution for the poor sanitation and hygiene situation in rural areas. The proposed toilets did not become popular among rural people, because they required rather big space which is a complication for traditionally small rural households, as well as micro-sewage systems with water wells that were often clogged by feces, and caused a smell and attracted flies. But the most important problem of flush water toilets was a constant need of water.

Even though the toilet wells were constructed from stones or bricks, acting as antiseptic, flush water kept contaminating groundwater, especially in the regions with the high level of groundwater.

SAFO started seeking new solutions and ways out to improve the sanitation situation and selecting new types of toilets that would be most applicable to the sanitary and climate conditions of Tajikistan. The solution has been proposed in 2007, by WECF who suggested the idea of dry toilets.

Dry toilets

The Project was first launched in 2007, when SAFO carried out an assessment in a number of districts of Sughd region in Tajikistan: Bobojon Gafurov, Jabbor Rasulov, Matcha, Kanibadam and Spitamen. The assessment helped to identify the best target districts for implementation of a completely new Project in the region. Finally, it was decided to select 1 district where the level of groundwater does not exceed 1 meter (Jabbor Rasulov – Digmay community) and a district with an acute need of potable water (Matcha – Kuruksai community). Other factors that were considered important for selection of pilot districts include: level of agricultural development, economic development of the district, and participation of community in making different kinds of decisions, including sanitation.

Jabbor Rasulov, Digmay Jamoat, located to the west of the regional administrative center – Khujan city – used to have a developed agricultural infrastructure during Soviet times. Immense resources of melioration water enabled intensive production of cotton and other crops and helped to develop other sectors of the economy. After the collapse of the USSR, agriculture of the region, as well as the whole country, slowly deteriorated, and realization of the planned activities was diminishing. Collective farms evolved into private farms that still are seeking a way out of the current situation. The key problem with private farms includes deterioration of subsurface pumps for melioration waters and problems with chemical fertilizers. In addition, groundwater floods cesspools of traditional toilets every spring. These problems, along with soil contaminated by excess chemicals, pose a real risk to the health status of rural people.

Beginning

In January 2008, SAFO, in partnership with WECF, supported by the Dutch Ministry of Foreign Affairs, launched a Project “Participation – Improvement- Promotion”. The objective of the Project was to involve the community in improving living conditions of rural people by promoting ideas of dry toilets, which rural people can use to: improve their living conditions,

reduce the amount of contamination by infectious diseases and increase crop capacity at private farmlands. Organization of the round table includes representatives from local authorities – heads of municipalities of Matcha and Jabbor Rasulov, Heads of regional and district education departments, heads of community authorities of Digmay and Kuruksay, School principals and Heads of local women’s organizations. All parties showed willingness to support the project implementation. A memorandum between SAFO and local authorities has been signed. The document ensured active participation of local authorities in the Project implementation and mobilization of inner resources in case any complications or barriers occur within the process.

In spring 2008, after the coordination meeting with the community representatives in Digmay and Kuruksay, plans for household selection have been developed and pilot households identified. But it was not very easy at the beginning. Some people did not trust the innovation and refused to build dry toilets at their households; the situation was also complicated by the fact, that feces had to be used as fertilizers at their farms. But interested representatives from households, together with other community members, showed active participation in the construction of demonstration dry toilets at village schools. Construction of dry toilets at schools and households was accompanied by master trainings on construction, maintenance and utilization of a dry toilet. SAFO has already conducted a series of trainings for adults and children on 7 Components and Common Improvement of Hygiene and Sanitation.

Construction, Results and Discussions

In June 2008, we started construction activities at schools and households. The total amount of construction materials provided by SAFO cost 450 Euro per 1 dry toilet. The rest of the materials were to be provided by local authorities and household beneficiaries. Before starting construction at each household, we considered a possibility to use the resources of beneficiaries that remained from previous toilets and resources (stones, gravel, and sand). As a result, 34 dry



toilets have been constructed. The shortest construction period was registered in Kuruksay, where a jobless householder whose main occupation was a private farm finished construction in 8 days. The toilet was constructed in such a short period because a mother and 5 adult sons participated in construction. Construction in three households in Digmay took up to 3 months because of a lack of some construction materials and also time constraints. Two of the householders spent most of their time working on fields, and the third one was a school teacher and did not have enough time after

summer holidays (in autumn, school teachers are obliged to work on state fields picking up cotton). Based on the above observations, we have concluded that construction of 1 dry toilet takes approximately 30 days and should be finalized before the beginning of autumn and cotton campaign.

Time taken for construction of a dry toilet:

- Under 2 weeks – 18 households
- Under 3 weeks – 12 households
- Under 4 weeks – 1 household
- Over 4 weeks – 3 households

Each household contributed labor work in return for provided materials, and also provided some materials required for construction of a toilet. For instance, one of the householders in Digmay used some ceramic tiles and linoleum valued at 300 Tajik somoni (equal to 60 Euros).



Out of 34 toilets constructed, only 6 required some external help of relatives, while 28 have been built by the householders without any external assistance.

The shortest distance between a house and a toilet is 1 meter; the longest – 35 meters. The distance in each case has been decided upon by the householders, based on the credibility of the introduced innovation and possible smell. Also the size of the farm determines the possibility to reduce the distance between the house and a toilet.



Distance between a house and a toilet:

- From 1 to 5 meters – 5 toilets
- From 6 to 10 meters – 10 toilets
- From 11 to 15 meters – 2 toilets
- From 16 to 20 meters – 10 toilets
- From 21 to 30 meters – 6 toilets
- Over 31 meters – 1 toilet

20 of the constructed toilets use natural light and 14 use electricity. 22 households refused to build a urinal in a dry toilet, while 12 others considered it a mandatory element of a dry toilet.

Utilization

Out of the total number of constructed toilets (34), only 33 are fully utilized. Shortly before that, only 32 were operational, because utilization of one of the toilets had been fully destroyed after a wedding ceremony. All the guests had been informed of the proper use of the toilet, but children, unaware of environmental sanitation, interrupted the adequate cycle of the toilet utilization. Finally, the last toilet, though constructed in accordance to all the standards, has not yet been used at all. All the household members that use dry toilets realize the objective of environmental sanitation and are aware of proper utilization and maintenance of dry toilets. Out



of 34 households, only two said that their surrounding neighbors are not interested to have a new type of toilet.

31 households set up a kitchen garden on the household territory to use urine from dry toilets as fertilizers. 3 other households pour out urine under trees or bushes saying they do not have enough space for a kitchen garden.

Conclusions

Currently, our staff is intensely involved in promotion activities on the proper expanded use of the toilets by the household members and the effective use of urine in agriculture. The Project is most likely to be continued in 2010. Since 34 built dry toilets cannot show the expected efficiency; wider areas are to be covered by Project activities to promote the interests of ecological sanitation.

To achieve a sustainable effect from the Project activities, there is a need to:

- build a large number of dry toilets;
- attract the attention of local authorities to water, ecology and sanitation issues;
- expand the Project coverage area to promote ecological sanitation issues;
- promote the farmers' project for efficient use of compost and urine as fertilizers;
- train the population in gender aspects of expansion of dry toilets;
- change hygiene behavior of children, as well as their sanitary habits and attitude to ward the environment;
- increase the capacity of the Organization to provide for further implementation of the project on environmental sanitation.