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**TAJIKISTAN SAFE DRINKING WATER PROJECT
FINAL REPORT
October FY2009 - September FY2012**



November 15, 2012

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USAID TAJIKISTAN SAFE DRINKING WATER PROJECT

FINAL REPORT:

October FY2009 – September FY2012

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Submitted to:

USAID/Central Asian Republics

Contract No.:

EPP-I-00-05-00010-00

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ATTACHMENTS LIST

LIST OF ACRONYMS

CBO	Community Based Organization
CCN	Cooperating Country National
CDC	Center for Disease Control & Prevention
CHAP	Community Health Action Plan
CHI	Community Health Index
CHE	Community Health Educator
CoP	Chief of Party
COTR	Contracting Officer's Technical Representative
CSDWS	Center for Safe Drinking Water Solutions
CTC	Child-to-Child
CWB	Community Water Board
FY	Fiscal Year
GIS	Geographic Information System
GoRT	Government of the Republic of Tajikistan
GPS	Global Positioning System
HH	Household
HT	Health Team
IEC	Information, Education, Communication
IEE	Initial Environmental Examination
IMCC	Inter-Ministerial Coordination Council
KAP	Knowledge, Attitudes & Practices
LLC	Limited Liability Company
LQAS	Lot Quality Assurance Survey
MCH	Maternity and Child Health
MDG	Millennium Development Goals
MEO	Mission Environmental Officer
MoH	Ministry of Health
MOU	Memorandum of Understanding
NGO	Nongovernmental Organization
O/M	Operations & Maintenance
P&G	Proctor & Gamble
PMP	Performance Management Plan
PMU	Performance Management Unit
PRSP	Poverty Reduction Strategy Paper
RT	Republic of Tajikistan
SCI	Save the Children International
SDC	Swiss Agency for Development and Cooperation
SES	Sanitary Epidemiology Station
STC	Save the Children Tajikistan
TajWSS	Tajikistan Water Supply and Sanitation
TBD	To be determined
TDY-STTA	Temporary Duty-Short-Term Technical Advisor
TO	Task Order
ToT	Training of Trainers
TSDWP	Tajikistan Safe Drinking Water Project

TTU	Tajikistan Technical University
UN	United Nations
UNDP	United Nations Development Programme
US	United States
USG	United States Government
USAID	United States Agency for International Development
USAID/CAR	United States Agency for International Development/Central Asia Republics
WB	World Bank
WASH	Water Sanitation & Health
WB	World Bank
WBD	Water Borne Diseases
WT	Water Team
WHO	World Health Organization

EXECUTIVE SUMMARY

The Tajikistan Safe Drinking Water Project was authorized by terms of Contract Number: EPP-I-00-05-00010 and Task Order Number: EPP-I-05-05-00010-00. This Task Order issued by USAID/CAR on September 30, 2009 was operational from October 1, 2009 through September 30, 2012, and the project was implemented by ME&A (Mendez England & Associates) in the Republic of Tajikistan.

The USAID objectives for the project were:

1. Increase access to a sustainable, safe drinking water supply in rural Tajikistan through support for improvements in local government capacity, supply infrastructure, and community involvement in the operation and management of this infrastructure.
2. Build capacity among local health officials, community leaders, and the private sector to promote key improved hygiene behaviors and associated products, with a focus on the geographic areas targeted for safe drinking water supply infrastructure.

In particular, the project targeted nine specific counties (raions) of Tajikistan as follows: Hissor, Shahrinav, Tursunzoda, Rudaki, Khuroson, Vakhsh, Sarband, and Bokhtar & Faizabad. These specific Raions were targeted based on the USAID-specified criteria which required a focus on areas which had experienced the highest levels of water-borne diseases but had the lowest levels of donor assistance in the drinking water sector.

Despite the significant dual challenges imposed by resource limitations and the difficult Tajikistan operating environment, the Tajikistan Safe Drinking Water project was overall very successful. The project met or exceeded virtually all critical indicator targets set out in the Task Order as amended through the end of the project. The project provided more than 110,000 rural villagers across Tajikistan with safe, dependable and sustainable potable water supplies and contributed to very significant reductions in the incidence of water-borne diseases among the target populations, especially children. The specifics of these and other achievements are detailed in the main body of the report.

The outcomes achieved by the Tajikistan Safe Drinking Water Project clearly demonstrate that with donor resources and good project management, it is possible to make substantial progress in achieving the key objectives of the Millennium Development Goals (MDG) in Tajikistan of increasing access to drinking water. However, there remain substantial barriers to fully meeting the goal of increasing by half the number of people who have access to drinking water and sanitation services by 2015. The most obvious barrier is a lack of domestic fiscal resources. By one reliable projection, the cost of fully meeting Tajikistan's current deficiencies in drinking water and sanitation will exceed half a billion US dollars. Currently, there is no obvious source of funding available at that scale. Further, to place the provision of such essential community services on a firm foundation, certain policy and organizational changes will be required as well. As of this writing there is a lack of consensus as to which policy model is most appropriate for provision of safe drinking water and sanitation in Tajikistan. Even within the donor community there are some who advocate for a decentralized, community-based approach to service delivery

whereas other donor implementers continue to advocate for a modernized version of an essentially soviet approach to central control (pricing, management & regulation) of community water systems.

Clearly both the policy and fiscal issues will need to be resolved before all citizens of Tajikistan will be served with the adequate drinking water and sanitation services required for maintenance of good health and hygiene. These difficulties and challenges notwithstanding, USAID has achieved measurable and significant progress through its implementing partner ME&A in achieving the key objectives of the Millennium Development Goals (MDG) in Tajikistan of increasing access to safe drinking water.

1.0. BACKGROUND

1.1. Project Overview

The Tajikistan Safe Drinking Water Project (TSDWP) was designed to help improve the health of rural citizens in Tajikistan by improving the long-term technical, operational and financial sustainability of potable water supply services and improved health/hygiene behaviors. The project focused on serving rural populations in carefully and competitively selected target communities in a specific geographic zones. The project was ultimately intended to provide access to safe drinking water for up to 100,000 people who previously had no access, and to reach 3,000,000 people with mass media messages that promote health/hygiene behavior change. Community-based committees, associations or similar organizations were established or supported in all safe drinking water project sites to help ensure sustainability of project achievements. The project was originally designed to assist in the launch and marketing of at least one (1) point-of-use drinking water treatment product. Over the life of the project several modifications were made to the Task Order. See Section 1.2 for additional details.

Technical assistance, training and systems support to competitively and carefully selected communities were the means to achieve these ends in key strategic locations across Tajikistan.

1.1.1. Strategy

The strategic approach of TSDWP encompassed a range of elements, which were designed to address the multiple facets of water supply development and management, as well as the public health concerns (See **Annex 1** - Community Partnership Process). In addition, the strategy responded to USAID Task Order (TO) criteria, attempted to manifest maximum feasible success factors, and provided value for money within the significant resource limitations of the project. The key features of the strategy included:

- Use of a demand-driven, community-based, open, competitive and transparent selection process. The selected partner communities were to be supported by appropriate training, technical assistance and limited strategic material support (such as in-kind grants, etc.);
- Strengthening the sustainability of project impacts with a community-based approach that addresses the unique aspects, characteristics and desires of each

community. This would be achieved through the development and introduction of locally prepared and officially adopted “community health action plan” by the “Jamoat,” i.e. town or township;

- Self-selection by communities in the program, guided by the USAID-endorsed selection criteria. This approach would identify the communities that have both the greatest safe drinking water and health potential and the communities with the greatest motivation;
- Community/Project relationships and mutual responsibilities confirmed in a signed “**statement of cooperation**” between the communities and the project;
- An annual cohort of TSDWP partner communities selected each year. These model communities, which will be located within a sufficiently densely populated area so that they might serve as “cluster centers,” in Year 2 and beyond;
- Analysis of the experience/results of TSDWP community-based water and health activities to inform the legal and policy agenda. The policy responsibilities of the project were very limited but this information may be used by other national or donor initiatives focused on policy reform;
- Design and execution of a single integrated assessment of safe drinking water and related health and hygiene factors in partner communities across Tajikistan. This initial integrated assessment would serve as the baseline survey for each partner community and potentially establish and institutionalize a rural “Community Health Index” (CHI) to be adopted as appropriate.

1.1.2. Methods and Means

The USAID Task Order outlined a proposed set of processes by which to achieve the objectives. The TSDWP followed these guidelines and built the detailed steps into the project Logic Models and resulting Work Plan. The following text summarizes the methods, and in the section on specific activities, each method is reviewed in the context of implementation and accomplishments:

- **Community Selection Process:** The community selection process was based on USAID-mandated priorities as primary criteria with TSDWP supplemental criteria aimed at identifying communities with the greatest probability for optimal results. The selection was based on an open, competitive process. A series of three to eight targeted regional meetings were used to stimulate and solicit participation in the competitive selection process. Potential TSDWP partner communities with the highest potential to progress successfully toward achievement of the USAID/CAR safe drinking water and health project goals will be sought.
- **TSDWP Partner Community Statement of Cooperation:** Once the highest-ranking communities were identified via the competitive community selection process, the cooperative partner relationship between each individual community and the TSDWP would be established in writing by mutual signing of a “Statement of Cooperation.”
- **Community Health Action Plans:** Gathering of information needed for the Community Health Index and preparation and formal adoption of Community Health Action Plans would be the first order of business with each new partner community as soon as the statement of cooperation between the community and the project was signed.
- **Community Health Index:** The community health index was a standard tool developed by the TSDWP for assessing the initial safe drinking water and related health/hygiene status, and subsequent changes, in TSDWP partner communities. The index was also used in a small comparison control group of non-partner communities.
- **Community Training Process and Capacity Building.** These trainings included *Low Tech Water Systems, Operation and Maintenance, and Management and Fee Collection*. The project will design a Training of Trainers (ToT) program to prepare both project staff members and Cooperating Country National (CCN) Trainers/Facilitators to deliver trainings in TSDWP partner communities.
- **Improve capacity of rural health workers:** TSDWP provided community health

workers with appropriate training. To encourage increased knowledge in health and hygiene, the project trained local health workers on preventative health and sanitation practice, as well as the fundamentals of Behavioral Communication Change Strategy.

- **Behavior change among children:** To achieve real behavioral changes, the project directed training on appropriate methodologies such as child-to-child (CTC) techniques at school children and also targeted teachers as key influences on children.
- **Citizens:** The project supported community-based organizations (CBOs), such as WASH Committees, to give citizens a greater voice in making their own decisions regarding health services and priorities.
- **Health/Hygiene Mass Media Outreach.** These methods included: 1) development of material (brochures, leaflets, booklets) for use in schools; 2) development of material for use in community outreach and education; and 3) mass media public service announcements.
- **Collaboration with Tajikistan Technical University (TTU):** The project established a “*Center for Safe Drinking Water Solutions*” (CSDWS). The purpose of this center was to assist in preparing the next generation of water engineers for Tajikistan by providing training in advanced water technologies.
- **Legal and Policy Work:** Project staff conducted landmark legal research to determine if the TSDWP could discern a sufficient statutory base to create and operate “community water boards” (CWB) at the town/township (Jamoat) level.
- **Point-of-Use (POU) Water Treatment:** The Team assessed household knowledge, attitudes and practices (KAPs) related to point-of-use treatment options and costs. They assessed the cultural/social willingness to utilize various new point-of-use technologies, if economic barriers were removed.

1.2. USAID Task Order Overview And Modifications

The original USAID TO setting out the responsibilities and expected work products was finalized and signed on September 30, 2009. Over the course of the three-year project, six modifications were made. Five of these modifications authorized incremental funding adjustments, and two made significant changes in the activities and revised the targeted results. Most notably, the point-of-use activity was significantly reduced in scope and scale, to include only a limited consumer acceptance trial, and eliminated research and development into manufacturing and retail market development. The Information, Education and Communication (IEC) activities were expanded in scope and scale, to capture more audience viewing numbers for the televised public service announcements focused on health and hygiene behavior change. Requisite adjustments were made to the environmental impact standards to reflect these activity changes. The table summarizes the modifications. For full text, please consult the project archives. This final report takes these changes into account in detailing the activities, outputs, and results.

Table 1. USAID Task Order Modifications

Mod. # and date	Reference Objective	Change (Summarized)
Mod. 1 03.31.2010	N/A	Incremental funding
Mod. 2 05.21.2010	N/A	Incremental funding
Mod. 3 09.24.2010	N/A	Incremental funding
Mod.4 01.13.2011	Objective 1: "Increase access to safe drinking water...".	Page 5; amend the 2 nd sentence in the I st paragraph to read: " [...]100,000 people will have access to safe drinking water sources and 500,000 people will have received messages to promote hygiene behavior change".
	Objective 2: "Build capacity...to promote [...] associated products."	Page 5, replace the last sentence of the 1 st paragraph to read: "[...]assisted in testing the acceptability of one or more POU products.
		Output #2.10 to read: "Test the acceptability of one or more POU products by the end of the project in one or several pilot communities." Remove the following Outputs under Task #2: Output #2.11: "Assess points in the supply chain where access to credit at different levels [...] facilitate access to microcredit...[...]" Output #2.12: "Assist partners to launch and market one or more new products.
Mod.5 09.21.2011	N/A	Increase ceiling price
	N/A	Incremental funding
	Objective 1: "Increase access to safe drinking water...".	Community Water Boards: review activities/ results [...].Analyze the results of support for community water boards. "[...] Present the report [...] at a suitable public venue such as the Tajikistan Water Supply and Sanitation (TajWSS) Network or a special separate conference [...]"
	Objective 2: "Build capacity [...] to promote key improved hygiene behaviors..."	Additional activities: expansion of mass media scope of reach. "[...] by the end of the project the TSDWP will reach at least 3,000,000 people with messages to promote hygiene behavior change. Report will be presented [...] at a suitable public venue.
		II.SECTION H.8 ENVIRONMENTAL COMPLIANCE REQUIREMENTS, the following is added: "additional activities approved under the ceiling increase, fall under the Categorical Exclusion in the IEE approved by the BEO/Asia on September 30, 2009, tracking number Asia 09-157. The scope and nature of all other activities remain the same and all Conditions established in the referenced IEE remain in force".

1.3. The Status of Water and Sanitation Infrastructure/Operations in Tajikistan

Access to drinking water is one of the key objectives of the Millennium Development Goals (MDG) in Tajikistan. The goal is to increase by half the number of people who have access to drinking water and sanitation services by 2015. In Tajikistan, according to the government hypothetically 4.7 million or 61% of the residents have access to safe drinking water overall. While 87% of urban residents receive their water from centralized water supply systems, this is true for only 20% of rural residents. Yet, even in cities, water is not easily obtainable. Only 52 of the 62 cities, district centers and towns have centralized water supply systems and only 28% have sewage systems. Many rural water systems continue to be operated in improvised and random fashion, with significant violations of basic technical standards. The result is compromised quality and safety of drinking water. In rural areas, most sanitation facilities are very basic outdoor pit latrines. Where even elementary plumbing and sanitation facilities exist, sub-standard operating conditions contribute to environmental pollution and significant risks to public health. Overall, in rural areas water supply and sewage facilities are generally continuing to deteriorate. In most communities, operators will not be able to maintain existing capacities due to insufficient or delayed payments for service. According to field observations by project engineers, the water supply and sanitation infrastructure has been estimated to have deteriorated by an estimated 70%. In general water losses average 50 to 60% between the water source and consumer. The result is severe financial limitations on community water systems and very frequently little or no service for local residents. Due to frequent and extensive power cuts and issues with water



Children fetching water from far distance

pressure, even communities that have renovated piped water systems usually have access to water only in the morning and evening for much of the year. In the winter extended power failures or power rationing are the norm, and citizens are accustomed to a regime of two to four hours of power per day and often suffer longer power outages.

The 2010-2015 Poverty Reduction Strategy Paper (PRSP) of the Government of Tajikistan plans to increase the share of the population with access to drinking water to 97% in the urban areas and 74% in the rural areas, accounting for an additional two million residents due to population growth. With respect to sanitation access, the strategy paper envisions an increase to 65% and 50% in urban and rural areas respectively, including access to pit latrines and backyard toilets. To resolve water supply and distribution problems, three elements are key:

- Application of the newly adopted Law of the RT “*On Drinking Water and Water Supply*”;
- Implementation of reforms aimed at improved management, technical operation optimization of tariffs in water supply and waste water sector;
- Elimination of leakages in the water supply system and installation of water meters for consumption outlets (individual faucets, tap stands, etc.).

1.4. Water-borne diseases in Tajikistan: the health implications of inadequate water systems

In Tajikistan, access to potable drinking water in sufficient quantities remains one of the most persistent development challenges. This is compounded by unhygienic sanitation facilities and negligent personal hygiene practices. The actual situation remains murky. World Health Organization (WHO) statistics indicate that only 58% of the rural population has access to potable drinking water. Whereas other estimate range as low as only 20% of rural citizens have access to safe potable water. The World Bank (WB) states that 94% of the rural population has access to ‘improved sanitation facilities’ but the general consensus is that many of these facilities are in a very deteriorated condition and serve as vectors of contamination themselves. Many families in rural areas depend on irrigation canals, ditches or rivers and streams for their water supply. The resultant poor quality of water leads to a high incidence of preventable water-borne diseases (WBD). While national government and international organizations have been addressing the problem of poor water and sanitation, the local government is limited in its capacity to maintain and repair new and existing water and sanitation infrastructure. Over the last few years, unusually extreme winter weather conditions have led to freezing of inadequately installed distribution systems; which is compounded by dramatically increasing the need for repair and maintenance work. Inadequate access to potable water, deteriorating sanitation facilities and poor personal hygiene practices produce a burden of disease that undermines individuals, households and communities’ efforts to improve their standard of living and ensure a healthy future.

Complications from diarrhea is among the leading causes of death among children under five in Tajikistan, and the link between diarrhea and malnutrition has been well established. Children who suffer multiple episodes of diarrhea per year tend toward stunting (nationally 29%), are chronically anemic (35% national average), and have an intestinal parasite (worm) burden of 25%. While the causes of diarrhea among children under five also include feeding practices, poor quality drinking water and inadequate hygiene conditions and practices play a major role in the health status of these children. Studies have proven that water quantity (an access issue) is as important a factor in hygiene management as is water quality¹. More water more easily obtained leads to an

¹ USAID Food and Nutrition Technical Assistance/FANTA project. Year on year. FANTA 2006, Tajikistan assessment.

increase in drinking water consumption, and more frequent personal hygiene rituals as well as more frequent domestic hygiene routines. Furthermore, investment in Water and Sanitation and Hygiene (WASH) strategies are calculated to bring about a 47% reduction in neonatal and child mortality on a yearly basis.²

1.5. USAID Country Strategy for Tajikistan

Tajikistan is part of USAID's strategy matrix for the Central Asian Republics (CAR). The overarching goal is to achieve mutual prosperity, sustainable economies, improved human development, and good governance. The development objectives include: increased sustainable economic prosperity through trade, job creation, and food security; reduced threats of health pandemics, human trafficking and extremism; improved management of water and energy resources to drive economic growth and adapt to climate change, and enhanced capacity for transparent and inclusive governance in Central Asia.

The USAID program in Tajikistan focuses on supporting economic growth (including agricultural productivity), health, education, political reform, democratic institutions, and food security. The TSDWP falls under the Health and Education program of USAID/CAR *Investing in People*, which looks to strengthen health and education systems. USAID's Quality Health Care project, implemented by Abt Associates, is operational in the same general geographic area as the TSDWP.

The TSDWP resulted from USAID's interest in addressing the adverse impact of insufficient water supply and sub-optimal health and hygiene behaviors on the health of the population. In 2009, USAID/CAR conducted an assessment of the water sector in Tajikistan in preparation for developing the water sector program concept. The findings from the assessment provided the foundation for the present project. Two elements were considered essential in the design and execution of the eventual project: 1) providing sustainable water supply, and 2) evaluating means for improving household water quality treatment options.

1.6. Progress on Water Policy Development in Tajikistan

During the life of the TSDWP, the government of Tajikistan continued to work on formulating new policy for the drinking water sector. The Law of the Republic of Tajikistan (RT) '*On drinking water and drinking water supply*' was adopted in December 2011. The Law is intended to provide the necessary legal framework for compliance with international best practices and principles, as well as serving to attract investment in the drinking water supply sector. The Working Group tasked with developing the parameters for future programming in the drinking water sector calculated that investments in the amount of 3,324,843,700 TJS (*about 1 billion USD at the time of the document's approval*) are required for ensuring a 31% increased coverage. The policy sector continues to evolve under the guidance of the 'Tajikistan Water Supply & Sanitation Network' (TajWSS) implemented by Oxfam with support from UNDP, and funded by the Swiss Agency for Development and Cooperation (SDC). The goal of the project is to strengthen policy and reforms development at the national level in the area of water supply and sanitation management; and to ensure sustainable improvement at the subsector level that will result in increased access to tap water supplies in rural communities. TajWSS Network works in close collaboration with the Inter-Ministerial Coordination Council (IMCC) and implementers such as TSDWP on drinking water and sanitation issues. This Council serves as a consultative and coordination body for promoting policy dialogue and formulating recommendations on policy reforms. The

² UNICEF Situational Analysis, Feb. 2012.

parties continue to work on the development of a revised tax mechanism for the drinking water sector, which it is hoped will greatly facilitate community participation and investment in water systems.

1.7. TSDWP contributions to Tajikistan's overall progress toward development goals via water and health programming.

By increasing access to potable water, and health and hygiene information the project contributed towards achieving targets and priorities featured in several national Government strategies and plans, notably those described in the Government of Tajikistan PRSP:

“Ensuring wide access, regardless of level of income, to curative care and public health services, will be the principal aim of the Government's health sector strategy in fighting poverty. Strong support will also be given to improving the quality of medical services and providing the right balance between preventive and curative care.”

In 2003, UNDP in Tajikistan articulated water as the ‘lynchpin’ issue to advance towards its MDG³. Water access, quality and management figure prominently if not literally, in three of Tajikistan's MDGs: 1) eradication of poverty and hunger, 2) gender equality, and 3) reduction of infant and child mortality. Water is embedded in each these goals as identified in the priority areas for action:

- *Improving nutrition in the country;*
- *Launching public awareness campaigns on prevention of food-borne diseases, including programs on nutritious foods, health and sanitation campaigns;*
- *Strengthening information, education, and communication activities and advocacy campaigns for healthy living, including hygiene education of the population.*

2.0. PROGRESS BY SPECIFIC OBJECTIVES OF THE PROGRAM

With the goals of USAID, the Government of Tajikistan, and the United Nations (UN) Framework in mind, the TSDWP built a program that sought to address the complexities of the challenges in the water sector in Tajikistan. The program worked to achieve a balance between support for feasible policy development over the longer term, and the need to produce tangible results that would resonate at the community level and build support in the near term. Lessons learned from other water supply projects revealed that the ‘hard’ technologies of pumps and pipelines would see a short life span if the ‘soft’ technologies of community participation and behavior change were not fully incorporated into the conceptual framework. The TSDWP developed a dynamic process that would allow both ‘hard’ and ‘soft’ components to bring the best mix of both elements to communities while being flexible to the special circumstances in each area.

To accomplish this, a multi-disciplinary team was organized, with skills ranging from water engineering, public health, monitoring and evaluation, Geographic Information System (GIS) and mapping, to management and training. The team was fully involved in developing the Logic Models as the foundation needed to assure a coherent and integrated Work Plan.

The overall project objective was to improve the long-term technical and financial sustainability of potable water supply services and improve hygiene behaviors for rural populations in Tajikistan. The specific project objectives included:

³ “Tapping the Potential: Improving Water Management in Tajikistan”. UNDP. 2003.

- 1) Increase access to a sustainable, safe drinking water supply in rural Tajikistan through support for improvements in local government capacity, supply infrastructure, and community involvement in the operation and management of this infrastructure.
- 2) Build capacity among local health officials, community leaders, and the private sector to promote key improved hygiene behaviors and associated products, with a focus on the geographic areas targeted for safe drinking water infrastructure investments.

3.0. INCREASE ACCESS TO SUSTAINABLE SAFE DRINKING WATER SUPPLY

Addressing the problems of failing infrastructure, or the challenges of no infrastructure for water systems required a thorough review of the state of the art, including engineering approaches, policy application, and local government administrative procedures. The activities set for this objective engaged each of these factors.

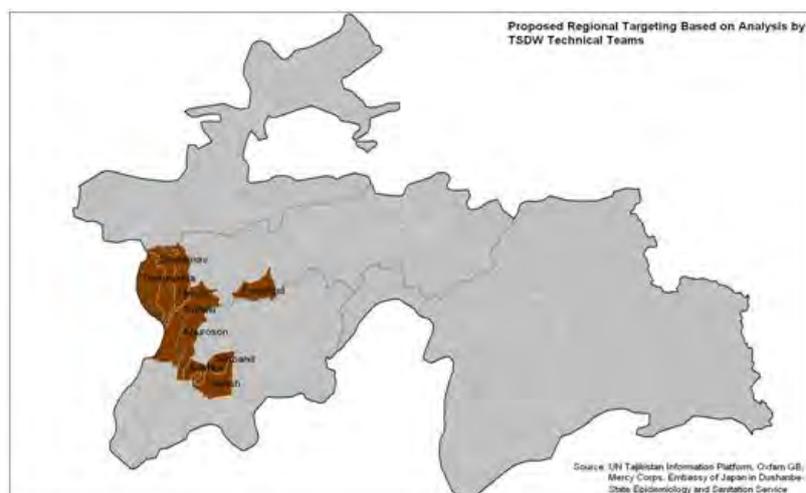
3.1. Activities

3.1.1. Review of existing data/research and government/donor assistance related to Tajikistan rural water supply, particularly existing and innovative management practices and policies.

The TSDWP Water and Health Teams gathered and analyzed two types of technical data: 1) drinking water supply projects implemented by donors in three oblasts (districts) and 2) incidence of water-borne diseases. The resulting data was mapped with a special software program and then analyzed according to USAID-mandated selection criteria to identify recommended target districts. The team produced a series of maps depicting distribution of drinking water projects and incidence of water-borne diseases across three oblasts. The staff then created an overlay composite map illustrating regions with the highest incidence of water-borne diseases and the lowest levels of previous donor investment in water infrastructure projects.

The Water Team (WT), then, conducted a brief sustainability survey of water projects supported by donors and implementing organizations including USAID, Caritas, Oxfam, UNDP, the Embassy of Japan and others. The review included water delivery systems, operation, and maintenance as well as fee systems over the past six years. The key findings were produced in a “*Report on Sustainability of Drinking Water Projects in Tajikistan.*” The lessons learned from this review enabled the TSDWP WT to design well thought-out and improved water projects with the intention to improve sustainability of TSDWP community water project implementation.

Map 1. Selected Intervention Area



The final map was used to make recommendations on TSDWP regional targeting. USAID officially approved the recommendations of the TSDWP regional targeting strategy on 1 March 2010. The selected districts included *Rudaki, Hisor, Shahrinav, Tursunzoda, Faizobod, Khuroson, Bokhtar, Sarband and Vakhsh*.

3.1.2. Identification and prioritization of candidate communities (villages or jamoats — village clusters) for the installation and/or rehabilitation of water supply infrastructure.

Once the districts had been identified, an assessment to select partner communities was conducted using a set of criteria, which included:

A. Indications of Need:

- Lack of current access to a safe and regular supply of water;
- Recent and/or persistent history of water-borne disease outbreaks;
- Least donor investment working in the same geographic area in the water supply sector.

B. Indications of Potential for Sustained Improvement:

- Geographic overlap with other USAID and donor activities in other sectors, including the current Mother and Child Health (MCH) program;
- Communities with engaged leadership;
- Demonstrated community willingness to pay for improved supply infrastructure;
- Potential for a community to become a “demonstration village/jamoat” which could widely influence others to take action;
- Potential for innovative institutional arrangements to sustain infrastructure improvements including engaging nearby water utilities to assist in management on a contractual basis, clustering village systems to improve economies of scale in operations and management, etc.;
- Technical feasibility for improving community water supply given the financial resources available under the USAID program and/or from local sources.

The WT conducted technical assessments in potential candidate communities. Data was collected on water levels, water pressure of existing pumps and pipeline requirements for water systems construction and/or rehabilitation. The team also conducted a preliminary environmental review, which identified environmental risks and recommended mitigation measures as needed. The WT took samples from the proposed communities' water sources to the *Laboratory of State Sanitary and Epidemiological Control Service* located in Dushanbe. The data was used to prepare a materials list and included in the Community Selection Recommendation package for USAID COR approval.

The TSDWP hosted initial consultative meetings, Round Tables, and an application process in the selected districts. In total, the TSDWP received 139 applications (FY2010 – 58, FY2011 – 71 and FY2012 - 10). A total of 29 communities, representing more than 52 villages were selected by the TSDWP over the life of the project. These communities submitted applications via a competitive selection process, and upon securing selection as partner communities of the TSDWP, each signed a Statement of Cooperation with the project (Consult **Annex 2** for the complete list of TSDWP partner communities).

3.1.3. *Enhance local government capacity, supply infrastructure, and community involvement in the operation and management of infrastructure.*

Apart from the engineering and infrastructure tasks, the TSDWP approached the organizational and management challenges with a strategy that addressed the variety of interest groups and their potential role in the overall water management context. A number of methodologies were applied to lay the foundations for building capacity within community entities.

Grant Application Workshops were conducted in partner communities by the WT Community Development Specialists. The purpose of the workshops was to assist the partner communities in preparing the applications to apply for a USAID in-kind grant for construction/re-construction of community water infrastructure projects. Applications were only accepted if they had the official endorsement of the respective government (Jamoat) authorities. Grants were reviewed and approved by USAID Tajikistan.



Construction process of one of the project water supply systems

Following the grants approval, a **Competitive Sealed Bid procurement** process for the construction of water systems in the selected communities was conducted. A public “Notice of Receiving Bids” including project bid specifications was advertised in newspapers of general circulation to solicit bids from qualified construction contractors. The process demonstrated a rigorous transparency and corruption prevention regime. Following a careful due diligence review, contractors were selected and contracts were awarded to the best qualified and most competitive construction firms. The procurement standard was “best value.”

The TSDWP developed a **Community Health Index (CHI)** in all 29 partner communities. The CHI was designed to familiarize TSDWP staff with the specifics of each community and provided baseline data for the TSDWP to allow comparisons of drinking water and health factors across geographical regions and over time. Each community established a Water, Sanitation and Health (WASH) Committee, which further served as a bridge between the TSDWP and the community.

The TSDWP rolled out the **Community Health Action Plan (CHAP)** program to produce a preliminary draft CHAP in each community for a typical planning period of three years. In the CHAP all the identified strategies were detailed into very



Community representatives discussing Community Health Action Plan

specific actions with assigned responsible parties and implementation time frames. The documents were distributed for community review, amendment, and ultimate official adoption by action of the Jamoat. The feedback received from the partners was incorporated into the final versions of the CHAPs which were then officially approved and adopted by the Chairpersons of the respective Jamoats.

The TSDWP researched the existing policies and current legal framework governing water use and management. This required a formal review by a licensed attorney to prepare a formal legal opinion which was used to guide the project and its partner communities to develop mechanisms that have the weight of current existing Tajikistan law behind them. Based on the evidence of the best operational models in use, **CWBs** were established to assume community ownership and operation for servicing the water supply system and operationalize mechanisms for water management, including fee schedules, tax procedures, legal parameters, etc. An election process, member training, and a handbook were produced for these purposes. The project established a CWB Network to encourage peer consultation across communities, and provided each CWB with a set of basic tools for maintenance and repair need. Reports have been produced, and a conference was hosted by the TSDWP to discuss lessons learned and disseminate findings.

Simultaneously with the execution of construction contracts, 29 communities signed a project **Memorandum of Understanding (MOU)** with the TSDWP. The MOUs governed the relationships and the process of safe drinking water project implementation between the TSDWP and partner communities.

3.1.4. *Coordinate project activities with the Technical University of Tajikistan*

The Center for Safe Drinking Water Solutions. Under the TO, the TSDWP established the “Center for Safe Drinking Water Solutions” which officially opened on March 27, 2010. This Center was created cooperatively with the TTU, and operates within the framework of the TSDWP. The Center has provided students from the Department of Water and Waste Water Engineering with practical internships on the development of safe drinking water alternatives. The Center’s purpose was to find safe drinking water solutions for rural communities while simultaneously helping to prepare the next generation of water engineers for Tajikistan. Student interns assisted in actual, practical community projects using state-of-the art techniques, methods and equipment provided by the TSDWP. These activities were designed to prepare the student interns for their eventual professional assignments and work to increase access to safe drinking water and improve health and hygiene in the rural communities of Tajikistan served by the project. During the last year, these interns had an opportunity to participate in both technical and “hands-on” field training. Training included modules on Ultrasonic Leak Detection, Pipe Location, Electronic Metering, Global Positioning Systems, Geographic Information Systems (GIS) and Water System Design and Modeling Software. In addition, the interns engaged in practical fieldwork in the development of eight community safe drinking water systems completed by the TSDWP over the last year. Since its opening, the Center has provided hands-on trainings on modern water engineering practices to 16 outstanding senior students of the Water and Waste Water Engineering Department of the university.



TTU students at the fieldwork using water engineering equipment provided by the

Training in Geographic Information Systems. The project also developed an internship and training program in GIS for aspiring engineering students at TTU. The sub-



Students / interns at TAZO State Mapping Institute

project involved the provision of some basic supplies, computer mentoring, map reading, site visits and fieldwork, and analytical exercises. Operation of GIS is a very useful tool for teaching about spatial thinking. Improving spatial thinking enhances math and science skills, which in turn facilitates skills in engineering, in particular for water engineers. The internship program complemented the WaterCAD trainings also conducted by TSDWP. Interns were provided with a starter kit, which included OpenSource GIS. Topographical maps and measuring tools were also provided. Sixteen water engineering student interns participated in two annual cohorts of eight interns each. Trainings began with orientations for a basic understanding of topographic and thematic maps in general. These basics are essential for understanding the concept of spatial information and its use. Participatory learning was conducted via a hands-on GIS project. The students tested different kinds of simple relationships such as identifying all neighboring towns and villages within a radius of 20 kilometers around the individual hometowns of the students.

Students then moved to apply their new skills in an actual project setting. The district of Khuroson was chosen to establish a simple GIS field laboratory, which showed and analyzed the current drinking water supply of the different villages. Each group practiced using a Global Positioning System (GPS) receiver for storing the different features of the datasets. They analyzed their data sets. Each group then created a cartographical representation of the project region with different techniques of symbology (such as the different diameters of the water tubes or the different qualities of access roads). The TSDWP office in Dushanbe provided an Epson plotter with the capacity to plot maps up to a format of ISO-A0.

The use of GIS and geo-data is still very underdeveloped in Tajikistan. This is in part due to the fact that geo-data such as topographical or thematic maps are still considered 'state secrets'. This limits the development of spatial thinking by professionals in Tajikistan. Using GoogleEarth from the very beginning of a project could help to increase the awareness about the usage of geographical information. However, if governmental restrictions continue in Tajikistan the development will be very slow. Many international activities to establish a countrywide spatial infrastructure have yet to bear fruit. The most promising source of information and services is the State Institute FAZO, the state cadastral agency, set up as part of a World Bank initiative. The institute will be able to provide possible projects with geographical base information such as high-resolution satellite imagery, and vectorized features.

3.2. Outputs

Outputs of the TSDWP are the tangible manifestation of the combined resources, skills, and planning over the three years of project implementation.

Community Health Index mechanisms were established which produced data at three intervals over the life of the project. The index tool was a useful mechanism for demonstrating to community members that the water systems had indeed produced tangible results by way of reduced incidence of water-borne diseases – in particular, diarrhea, typhoid, and hepatitis.

Community Health Action Plans were prepared and adopted by community working groups. The process for developing the plans was systematic and logical. It helped the participants to visualize the situation in their community and to envision a step-by-step

approach. Participants later stated that this process was very applicable to other development challenges in their communities (consult **Annex 3** for CHAP Template).

TSDWP and partner communities produced **29 drinking water systems** serving more than 52 villages (see **Annex 4**). Communities contributed their labor and skills, including 2,990 people who hand dug 114,452 meters of trenches, representing an estimated value of \$100,918 USD. Some communities installed pump-operated systems, which are dependent on electricity supply. Given the major problems with power supply across Tajikistan this affects the number of hours that water is available to the residents. Gravity-fed systems can also be subject to some circumstances beyond the control of the newly installed infrastructure, such as upstream diversion for agricultural (orchard) needs, watering of livestock, earthquake/tremors shifting underground water paths, and runoff irregularities from year to year. All construction and rehabilitation work was done based on USAID approved regulations, construction standards and environmental requirements. The TSDWP WT conducted regular site visits to monitor the quality and extent of excavation work by communities and construction and rehabilitation work by contractors. A continuous environmental review was conducted before, during, and after the implementation of water projects.

Hand-washing facilities installed in schools. The TSDWP Health Team (HT) designed hand-washing stands to install at schools most in need of water and sanitation improvements. In total, seven hand-washing stands were distributed and installed in the following seven targeted schools/communities. The design of the hand-washing stands reflects lessons learned from previous Save the Children (STC) projects, which provided hand-washing stands. A simpler design with moving parts was used to ensure they will function well beyond the end of the project, and to make any needed repairs easier for the schools to manage. Prior to distributing the hand washing stands, the HT met with school principals to discuss the importance of installing stands and soap close to latrines. Initial monitoring visits after distribution showed that all hand washing stands were installed close to latrines and are widely used by the children.



USAID Regional Director, Mrs. McKee together with schoolchildren at one of the project openings in Sarband Town

Community Water Boards (CWBs) were established in communities that lacked any sort of water system management organization or body. Outside of the 13 CWBs that the project supported, 16 communities already had operational entities to assume these responsibilities. The organizational unit known as 'VodoCanal' (a part of the "state unitary enterprise KMK"), governed the water systems and management in 16 communities. The CWBs report a better than average rate of performance.



Community Water Board members at the CWB Network Meeting

In larger communities, the rate of fee collection is better. The project did not analyze what factors contributed to this; however, it may be simply that a larger population creates a larger base of potential revenue to draw from. Studies show that good water use associations owe their success as much to the 'people' factor, i.e., good management and coherent organization, as to the engineering arrangements. Thus, investment over time in mentoring CWBs pays off.

Table 1. Community Water Board Performance Rating (13 project CWBs)

Location	Population Served	Number of Villages	Females in CWB	Level of Function 1 - 3
Yakumi May Village, Yakumi May, Tursunzoda Raion	2,200	1	0	2
Shaykh Muzaffar Village, Yakumi May Jamoat, Tursunzoda Raion	2,605	1	0	2
Husnobod Village, Rabot Jamoat, Tursunzoda Raion	1,511	1	0	2
Budyoni, Haiqajar, Hazhdahum hizb and Chorboghi kuhna Villages; S. Ayni Jamoat; Khuroson Raion	6,734	4	1	2
Miskinobod, Navkoram and Ferma Villages; Tojikobod Jamoat; Vakhsh Raion	2,394	3	0	3
Pakhtaobod (Navobod) Village, Tojikobod Jamoat, Vakhsh Raion	1,600	1	0	2
Chashmasor Village, Chashmasor Jamoat, Fayzobod Raion	590	1	0	2
Hojiboi Village, Esanboy Jamoat, Rudaki Raion	2,827	1	0	2
Teppai Samarqandi Village, Rohati Jamoat, Rudaki Raion	3,600	1	0	3
Khujii bolo Village, Chuzi Jamoat, Shahrinav Raion	1,072	1	0	3
Nilu Village, Khonaqohi kuhi Jamoat, Hisor Raion	4,200	1	0	2
Khojachildiyori Bolo Village, Mirzo Rizo Jamoat, Hisor Raion	826	1	0	2
Leninyuli, Komsomol, Guli Surkh, Qizilgul and Gulston Villages; Navbahor Jamoat, Bokhtar Raion	6,909	5	0	2
TOTALS	33318	22	1	2.2 avg

Center for Safe Drinking Water Solutions. The CSDWS lives on after the completion of the project as part of the TTU. As per the terms of the TSDWP's agreement with the TTU, all the equipment was transferred to the TTU which will enable them to incorporate all the "new" technologies that were introduced into the mainstream of the TTU water engineering curriculum. Sixteen (16) young engineers have been trained in these technologies. One TTU faculty member has been fully trained in all these technologies.



The first group of students / interns of the Center at the Graduation day

3.3. Results

Once the outputs of the TSDWP were produced, the project was able to register the effect that they had on the beneficiary population. At the end of the project, the immediate, quantifiable results include:

- **109,593 people now have access to potable drinking water**, where previously no safe, reliable supply of water was available.
- **13 water systems are regularly well maintained** by the "Mirob" (traditional title for a village water system operator) appointed by members of the CWB.

- **13 CWBs are collecting water fees** on a regular basis at differential levels of success to help ensure sustainability of the systems.
- **One woman serves on a CWB.** The gender balance within CWBs was a chronic and continuing challenge for the project. While women play a major part in water use and management at the household level in an informal manner, there is little precedent for them to engage in the public space in a more formal manner.
- **TTU has absorbed the training programs** of the TSDWP for water engineering courses.

4.0. BUILD CAPACITY AMONG LOCAL HEALTH OFFICIALS AND COMMUNITY LEADERS TO PROMOTE KEY IMPROVED HYGIENE BEHAVIORS AND ASSOCIATED PRODUCTS.

This element of the project focused on two hygiene behaviors that have been demonstrated world-wide to be highly effective, namely: 1) optimal hand washing (method and timing), and 2) safe storage and treatment of water at the POU. Activities to embed these practices in daily personal hygiene routines took a multi-dimensional approach, working at the institutional level, in the mass media space, at the household and school levels and with individuals.

4.1. Activities – Promote Key Improved Hygiene Behaviors

4.1.1. Assess existing hygiene promotion and behavior change training materials and methods in use in Tajikistan by governmental agencies, UNICEF, and nongovernmental organizations (NGOs) working in the sector for correct content, consistency, and effectiveness.

The TSDWP HT collected and reviewed training and education materials including modules, training manuals, posters, and brochures on hygiene promotion – such as hand washing methods and timing - diarrhea, typhoid, Hepatitis A, and other diseases from different potential sources (*ACTED, Save the Children, Mission East, Red Cross, Oxfam, etc.*). These materials were reviewed for consistency of key messages with universal standards, adaptability, and replication feasibility.

4.1.2. Develop new materials and messages as necessary and assist with broad dissemination of these information, education and communication (IEC) materials.

The TSDWP chose to revise and update materials developed by its partner organization Save the Children (STC) for its previous health projects (*Child Survival, Healthy Family and Personal Hygiene, and Sanitation Education*). The HT developed a set of modules for implementing Child-to-Child peer education, which was formally and officially approved for use by the Ministry of Health (MoH). Several sets of training materials were adapted and produced for key target groups, such as health workers, schoolchildren, teachers and citizens, which were approved by the Maternal and Child Health Department of MoH (See **Annex 5** for Health Component Training Modules).

4.1.3. *Train local governments, health clinic staff, and NGOs in geographic areas targeted by Task 1 to promote and involve communities in hygiene promotion and behavior change activities.*

An extensive and multi-faceted training program was conducted, using the revised materials with the appropriate target groups. This section provides an overview by category.

Trainings for Community Health Educators (CHE). TSDWP hired four (4) trained medical personnel to serve as CHEs who were then trained during ToT on water-borne diseases, hygiene promotion and water sanitation conducted by the project. The CHEs went on to conduct cascade-training events with health workers, adults, and schoolchildren and teachers.

Training for local health workers: The HT and CHEs trained local health workers in the partner communities on the use of interactive and participatory methodologies for teaching *preventative health and sanitation practices*, as well as the fundamentals of *Behavioral Communication Change Strategy*. This training enhanced their capacity to provide appropriate assistance and information to the different groups within their communities. The training included *prevention, identification, and treatment of WBDs; best practices in hygiene and sanitation including environmental, household, and personal hygiene; and designing and delivering training methodologies for different community groups (women, children, citizens, etc.)*. The training reinforced basic technical health, hygiene and sanitation subjects as well as methodological topics. As a result, a core health staff with knowledge and skills will promote behavioral change at community level and train other health workers in the future.

Training for children: The project used the universally recognized child-to-child (CTC) peer education strategy, which actively engages young people in promoting healthy behaviors in their schools and communities. Selected CTC educators received educational materials and were supported by a mentor teacher as well as project staff to provide mini health lessons to younger primary school peers. Lessons included correct hand-washing practices, hygiene promotion and management of WBD, including diarrhea.

Training for Citizens: This training initiative was designed to build the capacity of WASH committees and to engender a vibrant health conscious group of citizens who will lead behavioral change at the community level. Active community members trained in these sessions are expected to disseminate health messages to the members of their own families, their community, and other children. Citizens were also provided with a wide range of education materials, including education modules, brochures and booklets.



WASH Committee reading health education modules produced by TSDWP

4.1.4. *Design an integrated, comprehensive, mass media campaign that defines: content, target audiences, formats and schedules.*

A wide variety of multi-media, multi-format public events were conducted throughout the life of the project. These included mass media productions, interpersonal communication events, conferences, and contests. The HT provided technical support to community members, including WASH committees, religious leaders, teachers, schoolchildren, women and *mahalla* (*neighborhood*) chiefs to produce a wide variety of public outreach campaigns which promoted behavioral change at the household and school level. As a result, a total of 123,233 community members (*based on actual attendance counts not excepting individuals who attended multiple events*) were exposed to information on key preventative health practices, basic sanitation, prevention of WBD, personal health and hygiene by the CHEs, CTC Educators and WASH committees.

Public Service Announcements - Video clips for TV broadcast: The HT designed, produced and broadcast four (4) educational video clips, 1) *“When We Should Wash our Hands with Soap,”* 2) *“Germs on Trial,”* 3) *“Water is source for life,”* and 4) *“Prevention of Water-borne Diseases and Rational Use of Safe Drinking Water”* in both English and Tajik. The video clips were primarily used in a mass media health and hygiene behavior change public education initiative. The videos were also used during health and hygiene training sessions for citizens, schoolchildren, teachers and health workers, and were shown in partner schools by involving the school directors, teachers and schoolchildren as a tool for advocacy and raising awareness. The video clips were broadcast widely via national and regional television across Tajikistan as a way to spread the TSDWP message to a much broader audience.

The HT developed various promotional materials including a brochure. Entitled *“Five Steps on Hand Washing with Soap,”* the booklet, available in both English and Tajik, was designed for education and public outreach. Further, thousands of copies of this brochure were distributed among schoolchildren, citizens, government officials and other stakeholders in the partner communities to raise awareness on personal hygiene and the prevention of infectious diseases. This brochure is now being distributed by the US Embassy at its six “American Corner” public diplomacy locations.

Tajikistan Health Day: Festive health and hygiene education events were organized in celebration of Global Hand Washing Day in eight schools of the TSDWP partner communities. The Global Hand Washing Day events focused on the promotion of personal hygiene and sanitation, especially hand washing with soap among communities. These events involved representatives of the local government, MoH representatives from national and local levels, education departments, national mass media, parents and schoolchildren. In total, 2,050 people including 1,615 schoolchildren, 78 teachers and 357 adults participated in the activities. The Global Hand Washing Day Celebration event was broadcast through national TV “Bahoriston” on October 15, 2010.

Competitions among schools. Trained CTC Facilitators with the support of the HT organized a school competition between students of upper grades (5-8) and children from other classes in fourteen (14) TSDWP partner communities. The participants sang songs about healthy lifestyle and hygiene practices, demonstrated role-plays, games and drawing competitions. In the course of the event, children were shown correct hand washing steps with soap and were informed about the recommended frequency of hand washing. In addition, drawing competitions were organized during the events. The

winners were presented with hygiene-related prizes (*bath items such as soaps, towels and toothpaste*).

“Community Health Day” campaigns were organized in four TSDWP partner communities. These were community level events involving health and hygiene themed fun skits, games, practical demonstrations, and music that disseminated key health, hygiene and community awareness messages to their peers, parents and other community members in a fun and relaxed atmosphere. In the course of the events, children were shown how to wash their hands correctly with soap and about the recommended frequency of hand washing. The CTC educators were presented with hygiene-related prizes. In total 1,120 people including 846 schoolchildren, 56 teachers, and 218 active citizens including WASH committee members took part in these campaigns.



Community children playing microbes

The World Health Day Celebration was hosted by the Department of MoH in Qurghon-Teppa city on April 7, 2011. This was a regional-level event involving fun health and hygiene educational skits, games, practical demonstrations, music, and drawing competitions. The event was attended by more than 1,500 citizens and proved to be an effective means to disseminate key health and hygiene messages to the community. The World Health Day celebration focused on: *promotion of personal hygiene and sanitation, maternal and children’s issues, family planning, the importance of immunization, prevention of infectious diseases, as well as promotion of healthy lifestyles*. The participants included representatives of the regional government, a MoH representative from the regional and local level, education departments, national mass media, parents and schoolchildren. The CTC educators performed a health and hygiene educational role-play of a *“Mock Trial of Microbes”* at the event. Their play was very well received and left an impression, especially on the school children in the audience. The TSDWP supported this event by providing prizes for the most knowledgeable students on good health and hygiene practices (*30 small prizes and 1 DVD player*) for the winners of various quizzes and games. The World Health Day Celebration event was broadcast via regional Khatlon TV.



Children at the World Health Day playing the skit about WBDs

Child-to-Child Educators Conferences in Dushanbe and Qurghon-Teppa. The TSDWP supported two child-to-child Educators Conferences involving 44 CTC Educators and nine teachers from nine TSDWP Districts. The conferences took place in Dushanbe and Qurghon-Teppa. The purpose of the event was to bring together young CTC Educators from partner communities and provide a platform for CTC Educators to share their knowledge and experiences in promotion of key hygiene improving behavior. During the conferences, every group of CTC educators demonstrated their best methods and tools for dissemination of key health and hygiene messages to their peers, parents and other community members by using fun skits, games, poems and music.

4.2. Outputs

The outputs produced under this objective provided the basis by which to monitor behavior change over time. The strategic combination of training, research in the form of baseline and regular monitoring data collection, innovative interpersonal communication activities, and mass-media activities were timed to accompany the infrastructure construction and the management developments of the first objective.

The subcontractor STC updated a set of training modules that have been previously tested and verified for efficacy in other project venues. These modules included:

Table 2. Training Modules

No.	Training Module Packages	Purpose	Target Group
1	Training modules for health workers (Tajik only): 1. Child-to-Child Methodology 2. Hygiene Prevention 3. Diarrhea Prevention 4. Typhoid Prevention 5. Hepatitis Prevention	Modules will be used for the training process and to lay the foundations for hygiene behavior change in TSDWP rural partner communities	Health workers in TSDWP partner communities
2	Training modules for schoolchildren and teachers (in English & Tajik): 1. Child-to-Child Methodology 2. Hygiene 3. Diarrhea Prevention 4. Typhoid Prevention 5. Hepatitis Prevention	Modules will be used for the training process and to lay the foundations for hygiene behavior change in TSDWP rural partner communities	Schoolchildren and Teachers in TSDWP partner communities
3	Training modules for citizens (Tajik only): 1. Hygiene Prevention 2. Diarrhea Prevention 3. Typhoid Prevention 4. Hepatitis Prevention	Modules will be used for the training process and to lay the foundations for hygiene behavior change in TSDWP rural partner communities	Citizens in TSDWP partner communities

The multi-level participatory training events prepared participants to become change agents among their peers. At the end of the training cycle, the project had established a **corps of trainers and peer educators** to pass on the key messages of the Health and Hygiene component:

- 4 CHEs recruited and trained;
- 49 MoH Health Workers trained;
- 540 CTC Educators trained;
- 39 School teachers (Focal Point for CTCs);
- 537 WASH Committee members and other community volunteers trained.

Various informational materials were produced for use at public events, including a brochure called “Five Steps for Hand Washing.”

Four educational video clips/public service announcements were produced and broadcast via local TV stations.

The multi-intervention, multi-level strategy for behavior change communication was a major success, using all variety of mass media and interpersonal communication techniques for maximum outreach.

- **Four various video clips/public service announcements** were broadcast to a potential three (3) million TV viewers in the larger geographical region;
- **36 DVD disks** containing the clips were distributed to schools for regular viewing;
- **Eight Tajikistan Health Day Events**, attended by 2,050 people including 1,615 schoolchildren, 78 teachers and 357 adults;
- **One World Health Day** event drew 1,500 participants;
- **Four Community Health Days** drew 1,120 participants;
- **14 competitions** involving 4,927 people including 4,458 schoolchildren, 185 teachers, 213 parents, and 71 other citizens;
- **17,310 copies** of “Five Steps on Hand washing with Soap” brochure were distributed;
- **Two CTC Conferences** attended by 44 CTC educators and nine teachers.

In addition, the MoH of the RT requested support in publishing a brochure to promote breastfeeding. This stemmed from renewed concerns about bottle-feeding with formula that uses contaminated water to mix it. Materials were distributed among mothers in targeted areas including TSDWP partner communities where the rate of infant and child mortality from diarrheal disease is significant. Six thousand copies of a health and hygiene education brochure entitled “*Breastfeeding Promotion*” were produced. Two thousand copies of the brochure promoting breastfeeding behaviors were distributed among mothers in eight partner communities. Four thousand copies of the brochure were submitted to the MCH Department of MoH to distribute in other at-risk areas of Tajikistan.

4.3. Results

All of the events outlined above were expressly designed to bring about improvements in knowledge, attitudes and practices (KAP) in health and hygiene behaviors. Two evaluation tools were instrumental in documenting the results.

4.3.1. *Changes in health behaviors*

The final ***Knowledge, Attitudes and Practices survey*** (see **Annex 6**) compared data from a baseline survey conducted among a cohort of students and adults. The project used the Lot Quality Assurance Survey (LQAS) technique, which used a small sample size. The data serves as ‘a plausible indication’ of improvement. One significant area of improvement in both sample groups was the ***ability to recognize danger signs of diarrhea***. Early identification of symptoms allows for timely medical intervention. ***Hand washing at critical times improved considerably***, in particular among schoolchildren. Finally, respondents reported a reduction in ***incidence of diarrheal disease*** in their homes.

Table 3. KAP Survey Results

SCHOOL CHILDREN: Baseline Survey vs. Final Survey 180 respondents = 0.5% of target population		
Key Indicators	Baseline Data	Final Data
Percent of children who know +2 dangers signs of diarrhea	24% (43)	99% (178)
Percent of children who can list +2 prevention ways of diarrhea	9% (16)	98% (177)
Percent of children who wash their hands with soap in critical times	5% (9)	50% (90)
Percent of children who wash their hands with soap after using latrines	60%(109)	93% (168)
Percent of children who can prepare correctly ORS for treatment diarrhea	3%(6)	86% (135)
Percent of children whom family members had diarrhea last month	83%(149)	52%(93)
Percent of children who know what diseases can be contracted unsafe water.	n/a	98% (176)

ADULTS: Baseline Survey vs. Final Survey 180 respondents = 0.5% of target population		
Key Indicators	Baseline Data	Final Data
Percent of citizens who know +2 dangers signs of diarrhea	52% (94)	178 (99%)
Percent of citizens who can list +2 prevention ways of diarrhea	17% (31)	95% (171)
Percent of citizens who wash their hands with soap in critical times	8% (14)	41% (74)
Percent of citizens who wash their hands after using latrines	65%(117)	79%(142)
Percent of citizens who can prepare correctly ORS for treatment diarrhea	12%(21)	92%(152)
Percent of citizens whom family members had diarrhea last month	91%(169)	62%(111)
Percent of citizens who know what are diseases can be contracted unsafe water.	n/a	178(99%)

4.3.2. Changes in the number of cases of diarrheal disease

Results from the baseline and final **Community Health Index** showed a reduction of water-borne diseases overall. In 23 out of 30 communities, the number of cases of children under five with diarrhea was reduced by an average of 54.8% (consult **Annex 6**). This is a very satisfactory rate of improvement, and suggests that the combination of a well-managed clean water supply and sustained communication activities that encourage behavior change is an effective approach.

Six communities experienced an increase in the number of cases from the time of the baseline* to the time of the final survey. In four of these communities, the new water system was only functional for a very short period prior to the final disease survey (mid-July 2012), so it may be said that the population was still at high risk for illness due to non-potable water. However, this does not explain an *increase*, especially in the context of intensive IEC activities. Other extenuating circumstances might include seasonal variations in disease incidence and the fact that July is the 'peak' season for diarrheal disease, as well as the fact that the most energetic corps of message carriers – schoolchildren were dispersed during summer vacation. Finally, it may also be that

* TSDWP did not conduct a single CHI survey; rather each prospective community underwent a baseline CHI survey at the time of engagement with the project.

recorded cases increased due to improved understanding and capacity among health care workers to take accurate data reporting seriously.

4.4. Activities – Promote Point-of-Use Products

4.4.1. *Test the consumer acceptance of one or more POU products by the end of the project in one or several pilot communities.*

Overview. USAID/Tajikistan has an initiative on Public/Private Partnerships, which encourages its projects to pursue appropriate collaborative ventures in an effort to bring greater dimension to the scope of projects and secure sustainability. The TO originally called for a fully developed social entrepreneurship program, going beyond social marketing to explore the possibilities of locally manufacturing a water treatment product. In January 2011, TO Modification #4 amended the project to a significantly reduced and more limited market research activity, which involved product placement, trial use, and a consumer acceptance survey. The TSDWP implemented the PoU Water Treatment consumer acceptance test activities in Year 3.



PoU water treatment with PUR packets (P&G) product at one of the households

Concept. The product selected for the test was water treatment product “PUR” produced by Proctor & Gamble (P&G) in collaboration with the US Center for Disease Control and Prevention (CDC). Created to enable people anywhere in the world to purify dirty water in a simpler, more affordable and convenient way, the PUR packet is based on technology similar to municipal water systems in developed countries. The PUR packet is a powdered mixture with combination flocculent and chlorine disinfectant that removes pathogenic microorganisms and suspended matter, making previously contaminated water clean. Each packet treats 10 liters of water.

Compliance. Prior to distribution of the packets, Save the Children International (SCI) conducted environmental compliance due diligence and received official governmental approval from the Drug Control and Pharmaceutical Department of the Khatlon region. The Sanitary Epidemiology Station also tested the PUR packet and provided a Certificate of Analysis. Additionally, SCI received a Certificate of Analysis from P&G in Pakistan. According to P&G representatives, the product also meets the USEPA & FDA applicable standards. Certificates, product safety and environmental information are included as appendices in the full PoU report included in the annexes.

Market Research Plan. Save the Children International has closely collaborated with P&G, which provided SCI with a substantial number of the PUR packets to various SCI projects, including the TSDWP, for free distribution. The sub-contractor STC selected two pilot communities, using a set of criteria to select those villages where the rate of water-borne diseases is high, and the people have no access to safe drinking water.

4.5. Outputs

The TSDWP HT distributed 365,400 PUR packets to 812 households in two pilot communities for a period of three months in order to assess the acceptability of the product, and willingness of the population to use this product in the future. The HT calculated the number of packets based on typical needs that one household will

consume 50 liters of water per day. One packet serves 10 liters of water, so each household used five packets per day for 90 days.

During the distribution of the PUR packets, the project staff conducted training for the household members on the correct usage of this product through demonstrations. After three months of use, the project conducted a final survey in order to test the acceptability, usage and willingness of community people to use and pay for the PUR product.

A use/acceptability survey was conducted. The sample size of sixty (60) respondents represents 7% of the 812 households who received the products. However, as the respondents are the principal water managers in their homes, they represent all of the members in their household – for a proxy total of 600 individuals.

4.6. Results

Despite the free distribution of the product, consistent use of PUR was not high pointing to barriers beyond cost. While a majority of household members (88%) had tried the product, and **85% thought that PUR was useful** and met household needs, consistent use was lower. Only **31% of respondents reported that they always or usually use the product**. This is a reasonable adoption rate, but given the short duration of the project and the provision of free packets it is likely that the consistent use would drop significantly under normal circumstances. In fact, **85% of respondents reported that they were not willing (or able) to pay** for the product. Though this reported unwillingness to purchase the product may be artificially high because participants desired to continue receiving the product free, it is likely that consistent use would drop dramatically if households had to purchase the produce in the local market.

It does appear based on survey results that the training and health education that was provided along with the PUR packets was effective with the majority of households understanding proper use of PUR (not demonstrated, only asked) as well as general knowledge on prevention of water borne diseases.

Data also reveals that more than half of respondents **prefer other POU water treatment options to PUR**. Other options include boiling, filtration and chlorination (without the flocculent included in PUR). This consumer acceptance test only looked at adoption of PUR and did not provide a range of options or directly compare adoption of alternative POU options. Some people were also not convinced that PUR was effective at providing safe drinking water, which also limited adoption.

Overall, the POU exercise showed that training and education were effective, as most households understood the proper use of PUR. However, though PUR was appreciated, few households were both able and willing to pay for the product. About 54% of people preferred other POU treatment options rather than PUR, which indicates a broader interest in POU options, with PUR being one possible technology. Part of the consumer resistance may be ascribed to the normal “social inertia” that exists and the innate human resistance to change. Other options may be more appropriate for some households. The overarching lesson is that the concept of treatment at point-of-use is valid, whatever method people may choose to adopt.

5.0. PERFORMANCE INDICATORS

5.1. USAID Standard Indicators

USAID Standard Indicators have been tested for validity, credibility, cost-effectiveness, and technical feasibility. They are designed to measure impact. The indicators contribute to a universal database, which allows USAID to monitor impact across programs and thus to determine the most effective best practices worldwide. The indicators are disaggregated by sex and in some cases, by age. The TO for TSDWP required the Performance Monitoring Plan to collect data for the following indicators:

- 1) Number of men in target areas with access to improved drinking water supply as a result of USG assistance;
- 2) Number of women in target areas with access to improved drinking water supply as a result of USG assistance;
- 3) Total number of people in target areas with access to improved drinking water supply as a result of USG assistance;
- 4) Number of hours per day that households in USG-assisted programs have potable water service;
- 5) Percentage of the operations and maintenance cost for water supply and sanitation services covered through customer charges in USG-assisted target areas;
- 6) Number of liters of drinking water treated (standard POU indicator);
- 7) Incidence of diarrhea among children 0-2 years of age.

5.1.2. *Definitions and means of measurement*

The TSDWP understood 'men' and 'women' to mean 'male' and 'female', and to include all persons under 18 years of age. In defining 'access to improved drinking water supply,' the TSDWP included the cohort of households who benefited from the 'PUR' product promotion activity as separate from a planned pipeline water supply. Calculating the number of hours per day that households have access to water meant separating gravity-fed systems from electricity dependent systems, which were subject to power outages.

To calculate indicator #5, expenses covered by user fees, the TSDWP made the indicator time-bound from the date the CWB initiated operations, and fixed the estimated operation and maintenance (O/M) costs per month as those which were determined in training and planning sessions. This was compared to the actual amount of water fees collected per month, and of this the percentage that was used to cover O/M costs. Finally, the incidence of diarrhea in indicator #7 was re-interpreted to *count* the number of cases, rather than to calculate the *incidence*. The age range was expanded to five years to be consistent with health records system of the MoH.

To best interpret the table, it should be noted that data is not cumulative, but is calculated year by year as new communities joined and water systems came on line. Furthermore, a realistic assessment of the functionality of the CWB and its duties related to fee collection, operations, and maintenance can only be done after 12 full months of operation. Only four systems met these criteria at the close of project

Baseline and intermediate data derived from the CHIs is specific to each community as they came on line with the project, thus no comprehensive data has a value here. Finally, the data on reduction in the number of cases of diarrhea represents 23 of 29 communities, as noted earlier.

Table 4. USAID Performance Indicator Results September 2012

PERFORMANCE INDICATOR	BASE LINE	RESULTS**					
		Target			Actual		
		FY10	FY11	FY12	FY10	FY11	FY12
Number of men in target areas with access to improved drinking water supply as a result of USG assistance		8,230 (38%)	18,741.6 (38%)	8,983.2 (38%)	7,656	41,678	6,997
Number of women in target areas with access to improved drinking water supply as a result of USG assistance		13,430 (62%)	30,578.4 (62%)	14,656.8 (62%)	7,322	43,503	7,242
Total number of people in target areas with access to improved drinking water supply as a result of USG assistance		21, 660	49, 320	23,640	14,978	85,181	14,239
Number of hours per day that households in USG assisted programs have potable water service		3 hours	6 hours	12 hours	19 hours	19 hours	18 hours
Percentage of operations and maintenance cost for water supply and sanitation services covered through customer charges in USG-assisted target areas		50%	75%	90%	Foot note ¹	80%	95% ² foot note ²
Incidence of diarrhea among children 0-2 years of age		15%	TBD	TBD	foot note ³		54.8% ⁴

5.2. TSDWP Indicators

In addition to the USAID Standard Indicators, the Performance Monitoring Plan (PMP) of TSDWP included a series of intermediate indicators to track progress toward the objectives. These indicators correspond to the activities in the TO and include:

- Percentage of water quality samples that complied with applicable Tajikistan national water quality standards;
- Number of improvements to laws, policies, regulations, or guidelines related to improved management/operations of rural water supplies;
- Number of awareness building or training sessions conducted directed at improved knowledge and/or behavior change;
- Number of women participating in training sessions;
- Number of men participating in training sessions;
- Number of people receiving messages to promote hygiene behavior change;
- Improvements in key hygiene behaviors, including number of households that have adopted: safe storage and treatment of water at the point-of-use, and optimal hand washing (method and timing);
- Number of sub-awards (grants) to support safe drinking water improvements or health/hygiene promotion in partner communities;
- Number of beneficiaries of the sub-awards (grants).

5.2.1. Adjustments through TO modifications

As noted in Section 1.2, the TO was modified at certain points in time, and this included the revision or elimination of some indicators. The eliminated indicators include:

- Number of sales of point-of-use product(s) as reported by vendors;
- Number of public private partnerships implemented, involving POU treatments.

Table 5. TSDWP Performance Indicators – Results September 2012

PERFORMANCE INDICATOR	BASE LINE	RESULTS ⁺⁺					
		Target			Actual		
		FY10	FY11	FY12	FY10	FY11	FY12
1.1. Percent improvement in collection rates for water services providers in partner communities		25%	15%	5%	Foot note ¹	100% 2/29 ²	100% 13/29
1.2. Number of Water, Sanitation & Health Committees (WSH) established or strengthened (with targeted membership of at least 50% women)		7	16	7	8	17	4
1.3. Number of water boards/committees established & operating in accordance with adopted community health action plans		7	16	7	0	5	8
1.4. Number of water infrastructure systems rehabilitated		7	16	7	8	17	4
1.5. Percentage of water quality samples that complied with applicable Tajikistan national water quality standards.		60%	70%	80%	100%	100%	100%
1.6. Number of improvements to laws, policies, regulations or guidelines related to improved management/operations of rural water supplies		3	5	3	9	9	9
2.1 Number of awareness building or training sessions conducted directed at improved knowledge and/or behavior change		62	153	72	1,065	3,862	1,065
2.2. Number of women participating in training sessions		558	1,377	648	9,799	40,374	17,279
2.3. Number of men participating in training sessions		558	1,377	648	7,020	33, 247	15,116
2.4. Number of people receiving messages to promote hygiene behavior change		100,000	200,000	300,000	500,000	2,300,000	2,987,250
2.5. Improvements in key hygiene behaviors, including number of households that use optimal hand washing (method and timing)		21,000	48,000	21,000	21,819	75,331	34,022
2.6. Number of sub-awards (grants) to support safe drinking water improvements or health/ hygiene promotion in partner communities		7	16	7	8	17	4
2.7. Number of beneficiaries of the sub-awards (grants)		7	16	7	14,978	85,181	9,434

Overall, TSDWP exceeded its output targets, in particular under Task 2. Water quality in all of the installed systems was consistently high (1.5). The TSDWP was highly successful in promoting policy work (1.6). The project was able to conduct more IEC events, and engage many more citizens than originally planned (2.1, 2.2, 2.3, 2.5).

It should be noted that prior to the project, no water system collected any form of fee in the communities where the TSDWP established CWBs. Calculations related to fee collection, operations and maintenance activities are done only for communities with a CWB established by TSDWP, i.e., 13 out of 29. Results for Indicator 2.4 represent people potentially exposed to the media campaigns, as per TV 'catchment area' data.

The complete Performance Management Table can be found in **Annex 7**.

6.0. APPLICATION OF ENVIRONMENTAL COMPLIANCE STANDARDS

USAID-funded programs must comply with environmental regulations as stipulated in 22 CFR 216. The TSDWP dedicated significant attention to ensure environmental compliance with both USAID regulations and Tajikistan legislation. The purpose of the action is to identify in advance any possible environmental consequences of actions financed by USAID, and to assess and address potential impact.

Process. Early on, an Environmental Manual and Framework Mitigation and Monitoring Plan was drafted based on the Initial Environmental Examination (IEE) for the project as requested by the TO. The manual was prepared by the sub-contractor AECOM via its Technical Director–Environmental Services from its Washington, D.C. Office and implementation monitored by AECOM’s Senior Technical Advisor. The role of Environmental Coordinator was assigned to a national staff member of the TSDWP, who coordinated with AECOM’s advisor and via the USAID/Tajikistan COR with the USAID/CAR Central Asia Mission Environmental Officer (MEO).

Activities. All 29 water projects were subject to a standard environmental review process and exercise using an Initial Environmental Assessment Checklist, following which a list of mitigation measures were submitted to USAID. Most of the projects were considered to fall under the IEE category *negative determination with conditions*. Due to their size, these projects are considered small construction projects and generally with negligible risks of serious adverse effects on the environment.

In the end, the projects had overall net positive impacts on the local environmental conditions. TSDWP staff also made sure to convey a proper message to the local population and serve as a model in their approach to water related activities, as well as in other arenas. For instance, asbestos-based materials were prohibited from being used during the construction of a new system or during the rehabilitation of an existing system. (*Asbestos –cement sheets are commonly used for roofing in Tajikistan, but TSDWP used only metal polymerized sheets*). Another significant pollution risk was the use of PCB (*polychlorinated biphenyl*) based transformer oil. Consequently, the TSDWP avoided working with systems that required rehabilitation of the electrical power stations. The project took the opportunity each time to inform the population about the risks of being exposed to transformer oil and the risk of contamination of soil and water tables.

Oversight. The USAID/CAR MEO participated in periodic site inspections and based on the MEO feedback, mitigation procedures were improved and put in place to reduce the negative effect of earth work: excavation, compaction, resurfacing.

Constraints and challenges. The most common difficulty in complying with the environmental regulation came from the water runoff from the public standpipes. Most rural communities do not have centralized storm water collection systems, and the water flows into open channels running along the streets. If not properly cleaned of vegetation, sediments, or human/livestock waste, these channels (*ariks*) become clogged and infested with water-borne disease pathogens. The danger is even more serious, since populations often take drinking water from some of these channels. The TSDWP made certain that when a new water system was built, the *ariks* were properly cleaned and water was not stagnating near the standpipes. In some instances, the standpipes had to be relocated on higher ground, in order to secure a free flow. Special mitigation measures were routinely put in place to prevent soil erosion.

Special considerations. The project dedicated special resources to prevent pollution of the water at the source, installing fencing around the area adjacent to the water springs/wells and restricting access only to authorized personnel. Current standards (Tajikistan adopted all Soviet Union SNiPS – Soviet era Construction Codes and Regulations) prohibit the practice of agriculture in the sanitation zone (near the well/spring). Given the subsistence nature of rural life, the pervasive poverty and the dearth of arable land, it was often not possible to stop the pump operators from gardening

near the wells. However, since these gardeners do not use pesticides or fertilizers, the danger to the water system was considered negligible. In fact, the practice of growing vegetables in the area of the well-head represents an incentive for the pump operators who often are paid randomly and poorly.

Exceptional circumstances. Following USAID procedures, the TSDWP did not drill any new wells, but rehabilitated existing ones. In some situations, the rehabilitation required restoring the original technical documentation of the well, which otherwise would be lost.

Due to funding limitations and typical rural scale of operations, the TSDWP was not involved with the rehabilitation of any water treatment facility. All implemented projects were initiated by locating a clean water source, which does not require additional treatment, except for preventive chlorination.

In summary, the project actively engaged its responsibilities to environmental concerns. Although the TSDWP managed to improve water circumstances for over 100,000 people, additional efforts are still needed, and on a much larger scale. A change of attitude at the national level is necessary in order to understand that water is a finite precious resource and that without paying for water delivery, a water system cannot be sustainable and its life will always be dependent on intermittent and uncertain external funding.

7.0. LESSONS LEARNED, RECOMMENDATIONS AND OPPORTUNITIES FOR FURTHER INVESTMENTS FOR RELATED PROGRAMS

7.1. Rationale

Throughout each project life cycle, lessons are learned and opportunities for improvement are discovered. As part of a continuous improvement process, documenting lessons learned helped TSDWP teams and operating units discover some of the root causes of problems that occurred. Thanks to the efforts of project personnel, it was sometimes possible to avoid those problems and/or make adjustments in later project stages to fine-tune the development approaches. Notwithstanding a rigorous orientation process for staff as the project started its work, there were unexpected challenges that tested the ingenuity of the team. The table below describes these occasions, and offers some insight as to the possible reasons for the situation encountered, as well as recommendations for resolving the situation in the future. Lessons learned can be positive experiences as well, and the table records these for uptake in future programs.

7.1.1. *Lessons Learned by project activities*

Project Activities	Lessons Learned	Recommendations
Planning and work plan development	<ul style="list-style-type: none"> • Early project planners at the donor level often establish indicators that are ambitious and in some cases, unrealistic considering the resources provided. • Using the processes of CHI and CHAP enabled greater community involvement from various 	<ul style="list-style-type: none"> • When creating the initial life-of project work program, project personnel must carefully examine initially proposed project indicators and revise indicators that may be overly ambitious at the very beginning. • Involving a cross-section of citizenry in the process of analysis and planning the project activities helps focus community

Regional Targeting and Community Selection	<p>sectors, which helped to develop community interventions in an integrated way and let the community itself make decisions about their needs and corresponding solutions.</p>	<p>interventions on local needs and makes the interventions more sustainable and effective.</p>
	<ul style="list-style-type: none"> • Planning is essential for the success of any project. Good planning requires investing much time and effort. • Success and timeliness of the projects that involve construction work do not depend only on the implementer. • Gender issues are a special challenge in Tajikistan. The creation of a specific Gender Action Plan could increase levels of participation by women on CWBs and in planning sessions. • In districts where fewer water supply projects were implemented, the interest of local government representatives was minimal. In addition, it is less costly to extend alreexisting water supply networks. 	<ul style="list-style-type: none"> • In work planning, the project team should “begin with the end in mind” and from the beginning, think through the entire project in detail and in particular about the desired project legacy. • Certain project scheduling parameters must take into consideration the interplay between US government scheduling parameters and “ground reality.” For example, the beginning of the USG fiscal year in October means that, considering the time required for mobilization and start-up (<i>renting office, acquiring equipment/ vehicles/ recruiting & hiring staff, etc.</i>) and the climate of a country like Tajikistan certain contingent relationships emerge. In Tajikistan’s climate, it would be challenging to begin any project involving construction for the first year prior to March (<i>which would already be 6 months into the FY</i>). • As standard procedure, a Gender Action Plan should be designed that specifies targets for women’s engagement (beyond training and labor), and consideration should be given to creation of a separate budget line for ‘gender-focused dollars’. • In regional targeting, there are several trade-offs that must be considered, i.e. broad and shallow vs. focused and deep. If too many districts are selected, efforts and resources will be spread too thin and be less effective. Impact will be sacrificed for “apparent coverage.” Meanwhile, a more focused approach in regional targeting helps to create a local “critical mass” and builds fruitful and deeper relations with local governments, and more effective

	<ul style="list-style-type: none"> • Municipal level leaders advocated for their native villages during partner community selection or did not broadly disseminate announcements about possibilities of the TSDWP. • Some communities were less active. 	<ul style="list-style-type: none"> • In the site/partner community selection process, stakeholder roundtable(s) should be organized not only at the district level but also at the mahalla or village level.
	<ul style="list-style-type: none"> • Some community members did not really support their water supply project, as their village had an easy alternative drinking water source. 	<ul style="list-style-type: none"> • Because each community has its own “personality,” community selection has emerged as a critical success (or failure) factor. Projects need to develop a set of indicative tests, which can serve as better predictors of community commitment for the most active partners. • It is difficult to work with a community that has an easy alternative drinking water source even though the quality of water does not meet the basic standards and may be extremely hazardous to the public health. Efforts should concentrate on behavior change in these cases.
Bidding Process	<ul style="list-style-type: none"> • Basing selection of one or two bidders on their low bid and short delivery affected the quality of the water supply project. 	<ul style="list-style-type: none"> • Consideration should be given to conducting a two-stage procurement process for construction contractors. This would include a pre-qualification process for prospective bidders. Phase one would be a competitive process to select the “best fit” construction companies as per their qualification and experience, capacity, licensing/registration, tax status and overall reliability and reputation for quality work against a due diligence process. Only bidders from the pre-qualified, competitively selected list would be eligible to participate in bidding.
Technical Design	<ul style="list-style-type: none"> • Some standpipes, located near the main road, were broken by passing-by vehicles. 	<ul style="list-style-type: none"> • Good technical design is very important as well as installation of the standpipes in the proper locations.
Community Participation	<ul style="list-style-type: none"> • In some communities, WASH and CWB members met regularly to discuss their issues and came to common agreement that, then, affected community participation in the project activities in their community. 	<ul style="list-style-type: none"> • The ‘people factor’ cannot be underestimated. Regular meetings of WASH committee and CWB members help greatly in increasing community involvement and this ultimately translates into greater sustainability.

- Community representatives in one community agreed to dig trenches, but did not fulfill their commitment until after several reinforcement meetings took place.
 - In some communities, delays in trench digging occurred because communities lacked manpower due to extreme labor migrations or due to the harvest season.
 - Construction of several water supply systems was delayed during winter of 2012 due to severe winter conditions, which affected timely implementation of the project.
 - Project implementation in some villages went smoothly as the active community leaders took ownership and cooperated in every way.
 - In community contribution/work (for example, trench digging), a very early agreement should be achieved in specific terms as to the community's contribution. Persons who make the promises are not always the persons who must do the work. Official written commitments should be negotiated with the representatives as well as those who do the work.
 - Migration patterns and harvest periods should be taken into account when planning or anticipating community work.
 - Seasonal and annual weather variations and extremes must be considered both in community selection and project scheduling.
 - During community work, involvement of the active community leaders pays off. More women leaders would also lead to greater visibility of the role of women in the overall community engagement process. Non-remunerative 'rewards' to community leaders in the form of recognition and training opportunities are effective.
 - Rational use of water is a critical issue. Messages explaining and encouraging rational water use should be integrated into the CWB management plans and all public water use events.
 - Health education sessions and activities with schoolchildren should be planned to take place during the school year.
 - School-based approaches should include an integrated package of assistance: create infrastructure that includes water supply, toilets, hand-washing stands (with soap).
- Health Education Sessions
- Pressure problems are endemic in rural water systems. Rural citizens frequently do not close the taps, which prevents water from reaching villages located on the higher-level locations.
 - During summer vacation, project staff faced difficulties in engaging schoolchildren into the project activities.
 - It is not effective to teach children how to wash hands with soap if they don't have access to proper toilets, soap/water.
- Community
- Almost all fee collectors at
 - Involvement of women in the

Water Board	CWBs were men who reported that it would have been more comfortable for women to work with women during the collection fee period.	activities and work of the CWBs makes the process of fee collection easier as the majority of water users are women and children.
Project Sustainability	<ul style="list-style-type: none"> • The collection of fees for water continues to be a challenge, in the face of tradition that suggests water should be free. This in itself hampers the process of fee collection resulting into bad maintenance of water supply systems. 	<ul style="list-style-type: none"> • People pay for what they value. Projects should systematically plan persuasive message campaigns that target people's value systems, and emphasize that the fees are not so much for the water but for the system that delivers it. Find value comparisons (e.g., mosques must be paid for, even though the religious guidance is free).

7.2. Recommendations

Considering the challenges inherent in the Tajikistan operating environment and the resource limitations, the TSDWP delivered an impressive set of results. During the course of implementation and based on the assessment of its activities, a number of recommendations can be proposed which may be taken into consideration for future programs.

7.2.1. Water Supply Systems

Extend the existing systems to reach neighboring villages. The need for access to safe drinking water is huge. In the Republic of Tajikistan out of 4,400 villages, approximately 800 nominally have access to safe drinking water. This means 3,600 are in need. Within three years, 29 safe drinking water systems have been constructed by the TSDWP, which provides water to 52 villages. Considering the magnitude of the need, it is recommended to continue financing safe drinking water projects in the same areas and extend the systems into other neighboring villages, at a lower cost.

Build on well-established community cohesion to address other development potential. Twenty nine partner communities (in total 52 villages) brought water to their citizens, and in so doing laid a solid foundation for developing other livelihood sectors such as crafts, business, health, and sports, etc.

7.2.2. Community Water Boards

Build capacity among community members to self-finance and manage systems. Technical assistance and training should be provided to the members of the CWBs in grants making, project management, and fundraising. The experience of TSDWP project staff shows that CWBs need long-term "incubation," modest investments and continuing technical and problem-solving support. Abject poverty may present many obstacles to fully functional and operational community water boards. Most of the time, the success of the CWB depends solely on the community's will and on committed members of the CWB. For these reasons any future project should identify and work with "exemplary" CWBs. This may be the single best technique to disseminate the CWB concept.

A future project should take pro-active measures to engage women in all aspects of design and management of water systems. Given the significant role of women as water managers, all water supply projects should include basic processes to assess and enhance the role of women in decision-making and management roles. These would

include a) gender analysis, b) a gender action plan, and c) a specific budget mechanism to track gender-focused dollars.

7.2.3. *Schools*

A complete school intervention should include not only the package of activities for health and hygiene messages, but also water and sanitation facilities.

7.2.4. Point-of-Use Water Treatment Product

A carefully designed social marketing strategy, which includes a pre-launch research activity and the development of a targeted promotional campaign, should be developed as the foundation for this kind of activity.

8.0. FINANCIAL REPORT

Attached to this report is a preliminary report that includes all expenses through September 30, 2012. The TSDWP final financial report will be submitted when all final invoices and expenses have been included.

TSDWP - LIST OF ANNEXES

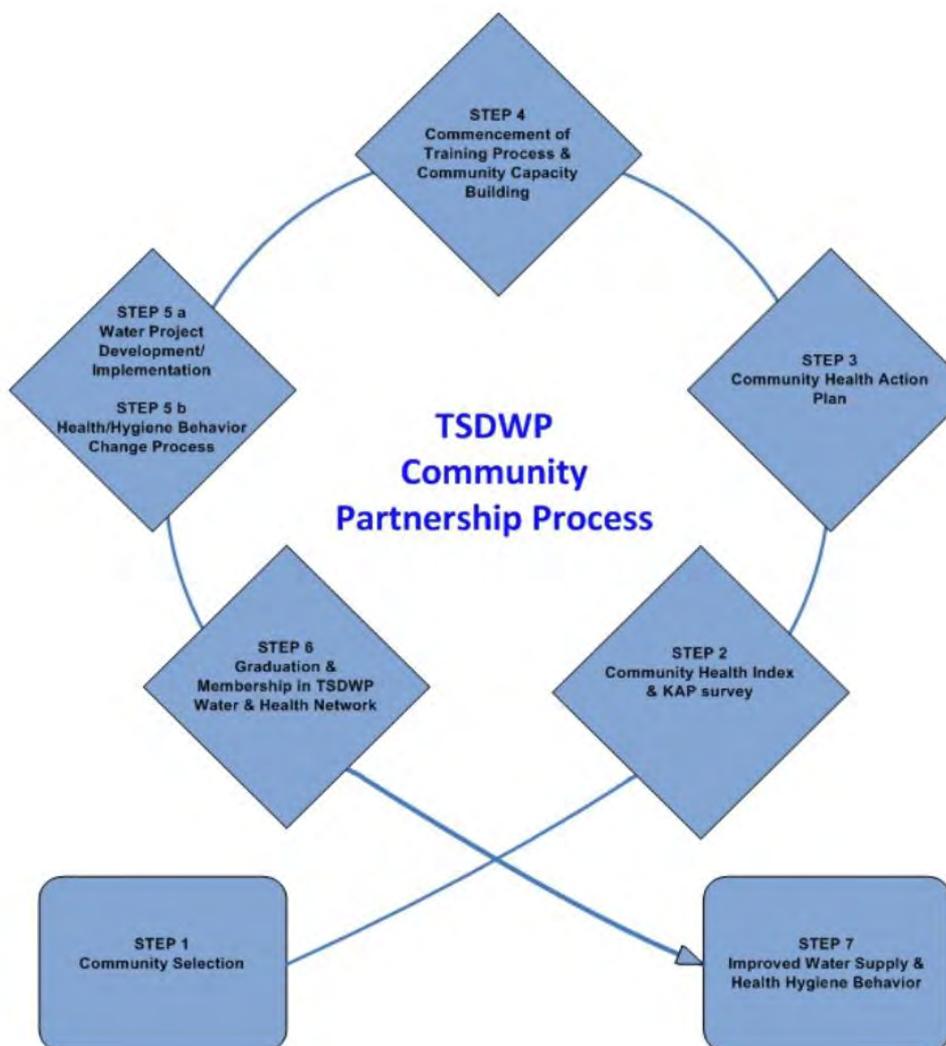
- 1. COMMUNITY PARTNERSHIP PROCESS**
- 2. THE LIST OF PARTNER COMMUNITIES**
- 3. COMMUNITY HEALTH ACTION PLAN TEMPLATE**
- 4. THE LIST OF WATER SUPPLY SYSTEMS REHABILITATED BY TSDWP**
- 5. TRAINING MODULES OF TSDWP HEALTH COMPONENT**
- 6. FINAL KNOWLEDGE ATTITUDE PRACTICE, COMMUNITY HEALTH INDEX AND POINT-OF-USE REPORTS**
- 7. FINAL PERFORMANCE INDICATORS**
- 8. LIST OF MEDIA ONLINE COVERAGE OF TSDWP ACTIVITIES**

ANNEX 1
TAJIKISTAN SAFE DRINKING WATER PROJECT
COMMUNITY PARTNERSHIP PROCESS IN DETAIL

Tajikistan Safe Drinking Water Project Community Partnership Process Composition

One of the very significant differences between the project USAID project design for Tajikistan Safe Drinking Water Project and all former donor efforts in Tajikistan to date is its integrated approach. Previous donor projects have been “water infrastructure” or “health.” USAID/Tajikistan has wisely chosen to integrate both water project development and health & hygiene education/training in a single project design. It is well documented that previous non-integrated approaches have met with mixed success at best. The project design for the TSDWP carefully integrated strategic community development, citizen participation, technical water project support together with an active program of health/hygiene education and promotion. All this occurs at the community level where people actually live. In order to concisely summarize and illustrate very clearly this integrated approach, a “Community Partnership Process Diagram” has been prepared and follows this paragraph.

Diagram 1. TSDWP Community Partnership Process



STEP 1

Competitive Selection of Partner Communities

- ⊙ Inception Meetings with Raion Chairs
- ⊙ Regional roundtables with Towns & Townships (Jamoati Shahak & Jamoati Dehot)
- ⊙ Distribution of Application Forms
- ⊙ Gathering of Application Forms
- ⊙ Application evaluation & ranking
- ⊙ TSDWP Community Selection Committee (Managers)
- ⊙ Preliminary Selection of Potential Partner Communities
- ⊙ Community Survey – (short-list of highest ranking communities)
- ⊙ Signing of Statements of Cooperation.

STEP 2

Community Health Index

- ⊙ Collection of baseline data for CHAP and M&E
- ⊙ Community Health Index Report.

STEP 3

Community Health Action Plan

- ⊙ Stakeholders Roundtable (including identification of potential members for WASH Committees/ Working Group
- ⊙ Formation of WASH Committees/Working Group
- ⊙ Community Health Action Plan Workshop
- ⊙ Defining community water and health needs/problems
- ⊙ Development and Approval of Community Health Action Plans (public meetings and/or hearings)
- ⊙ Official adoption of CHAP by WASH Committee & Jamoat
- ⊙ Development of implementation Plan for CHAP

STEP 4

Commencement of CHAP Implementation i.e. Training Process & Capacity Building

- ⊙ Project Design and Management Training
- ⊙ Low Tech Water System Training
- ⊙ Operation & Maintenance Management Training
- ⊙ Fees and Cost-Setting Training
- ⊙ CTC Methodology Training
- ⊙ Trainings on diarrhea, hepatitis and other WB diseases
- ⊙ Trainings on Hygiene Promotion and Hand-washing

STEP 5

A. Water Project Development & Implementation

- ⊙ Collection of Project Proposals from Communities
- ⊙ Signing of Grant Agreements
- ⊙ Water Project Implementation
- ⊙ Environmental Compliance Evaluation
- ⊙ Opening Ceremony

B. Health & Hygiene Behavior Change Process

- ⊙ Education Outreach Sessions
- ⊙ Events devoted to Global Hand Washing Day
- ⊙ Public Health Awareness Campaigns
- ⊙ School competitions among targeted schools

STEP 6

Graduation & Membership in TSDWP W&H Network

- ⊙ Further Cooperation & CapacOpportunities
- ⊙ Creation and Expansion of TSDWP W&H Network
- ⊙
- ⊙ Tri-Mesterly Network Meetings

ANNEX 2

**TAJIKISTAN SAFE DRINKING WATER PROJECT
LIST OF PARTNER COMMUNITIES**

**Tajikistan Safe Drinking Water Project
Partner Communities (grouped - more than 52 villages)**

1.	Shaikh Muzaffar Village, 1-May Jamoat, Tursunzoda Raion
2.	Khuji Bolo Village, Chuzi Jamoat, Shahrinav Raion
3.	Halqajar and Hazhdahum Hizb villages, Sadridin Aini Jamoat, Khuroson Raion
4.	Mirzo Tursunzoda Street Neighborhood, Ismoili Somoni Jamoat, Bokhtar Raion
5.	Khojachildiyori Bolo Village, Mirzo Rizo Jamoat, Hisor Raion
6.	Chashmasor Village, Jamoat-Dehot Chashmasor, Faizobod Raion
7.	Hojiboi Village, EsanboiJamoat, RudakiRaion
8.	Nusratullo Makhsum Street Neighborhood, Jamoat-Shahrak Sarband, Sarband Raion
9.	1 May Village, 1 May Jamoat, Tursunzoda Raion
10.	Sarband Jamoat-Shahrak of Sarband Raion
11.	I. SomoniJamoat-Shahrak of Bokhtar Raion
12.	Miskinobod and Navkoram Villages, Tojikobod Jamoat, Vakhsh Raion
13.	Navobod Village, Sabo Jamoat, Shahrinav Raion
14.	Husnobod Village, Rabot Jamoat, Tursunzoda Raion
15.	Teppai Samarqandi Village, Rohati Jamoat, Rudaki Raion
16.	Nilu Village, Khonakoi Kuhi Jamoat, Hisor Raion
17.	Qulmunda Village, Dehqonobod Jamoat, Hisor Raion
18.	Mehnatobod Village, Mehnatobod Jamoat, Bokhtar Raion
19.	Pakhtaobod Village, Jamoat-Shahrak Pakhtaobod, Tursunzoda Raion
20.	Budyoni and ChorogiKuhna Villages, as well as South-Western part of Uyali Settlement, S. AiniJamoat-Dehot, Khuroson Raion
21.	Boboi Vali & Darai Gusfandak Villages, Qalai Dasht Jamoat-Dehot, Faizobod Raion
22.	Vakhsh Village, Vahdat Jamoat-Dehot, SarbandRaion
23.	Yakkabed, Ustoshams, Mehrobod 1, Mehrobod 2, Mehrobod 3, Nodiri Kulobod, Kulul and Sheramon Villages, Mehrobod Jamoat-Dehot, Faizobod Raion
24.	Mehnatobod Jamoat-Dehot and Komsomol, Lenin yuli, Gulisurkh Villages of Navbahor Jamoat-Dehot, Bokhtar Raion
25.	Faizobod Town, Faizobod Jamoat-Shahrak, Faizobod Raion
26.	Sohili Village, Hisor Jamoat Shahrak, Hisor Raion
27.	Navkor, Kalinin, Sverdlov and Pakhtaqainar villages of Sarvatilstiqlol Jamoat, Bokhtar Raion
28.	Ferma Village, Tojikobod Jamoat, Vakhsh Raion
29.	Pakhtaobod (Navobod) Village, Tojikobod Jamoat, Vakhsh Raion

ANNEX 3

**TAJIKISTAN SAFE DRINKING WATER
COMMUNITY HEALTH ACTION PLAN TEMPLATE**



USAID
FROM THE AMERICAN PEOPLE

TAJIKISTAN

USAID-TAJIKISTAN SAFE DRINKING WATER PROJECT

Date of approval: <insert
date>

Community Health Action Plan for

<insert name of Village, Jamoat, and Raion>

<insert name of partner raion>

<insert date>

USAID –TAJIKISTAN SAFE DRINKING WATER PROJECT

WATER, SANITATION AND HEALTH (WASH) COMMITTEE
<insert name of Village, Jamoat, and Raion>

Community Health Action Plan
for

<insert name of Village, Jamoat, and Raion>

<insert picture from the event>

The *Community Health Action Plan (CHAP)* was developed by the *Water, Sanitation and Health (WASH) Committee* members of the <insert name of village> and TSDWP staff. Technical support was provided by Tajikistan Safe Drinking Water Project (TSDWP) staff in conducting *CHAP Workshop* that was funded by USAID.

The CHAP has been developed for a 3 year planning period – <insert period>

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I. Introduction

- 1.1 The Goal of the *Community Health Action Plan (CHAP)*
- 1.2 Community Health Action Planning Process

II. Mission and Values

- 2.1 The Goal of the Establishment of a *Water, Sanitation and Health (WASH) Committee*
- 2.2 Responsibilities of the *Water, Sanitation and Health (WASH) Committee*
- 2.3 Values of the *Water, Sanitation and Health (WASH) Committee*

III. Analysis

- 3.1 Identifying Stakeholders
- 3.2 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

IV. Community Health Action Plan

- 4.1 Identifying Strategic (key) Issues
- 4.2 Community Health Action Plan Schedule

Introduction

1.1 The Goal of the Community Health Action Plan (CHAP)

The main goal of the Community Health Action Planning process that was conducted in July 2010 was to produce a draft *Community Health Action Plan (CHAP)* for <insert name of Village, Jamoat, and Raion>.

The key objectives of the *Community Health Action Planning Workshop* were as follows:

- Identify and discuss the steps of the community health action planning;
- Use participatory methods to develop a *Community Health Action Plan*;
- Establish *Water, Sanitation and Health (WASH) Committee*;
- Identify the goal and responsibilities of *Water, Sanitation and Health (WASH) Committee*;
- Identify *Water, Sanitation and Health (WASH) Committee* values;
- Identify stakeholders (both internal and external);
- Identify Strengths, Weaknesses, Opportunities and Threats to the health of the village;
- Identify strategic (key) issues;
- Produce a draft *Community Health Action Plan (CHAP)*.

1.2 Community Health Action Planning Process

• How the Community Health Action Planning process was organized

Tajikistan Safe Drinking Water Project (TSDWP) staff members have supported the following preparatory activities before the *CHAP Workshop* in <insert name of Village, Jamoat, and Raion>: a) a meeting with Raion and Jamoat Chairpersons, b) *Stakeholders Round Table*, d) data collection for the *Community Health Index (CHI)*.

The following preparations were made for the Community Health Action planning process:

- A *Stakeholder Round Table* was held on <insert date> in <insert venue of event> with participation of TSDWP staff and citizens of <insert name of village>.
- Data for the *Community Health Index* was collected in <insert name of village> on <insert date>.
- The TSDWP staff members made preparatory and support arrangements for the *Community Health Action Planning Workshop* on <insert date>.
- The *Community Health Action Planning Workshop* was conducted on <insert date>.
- The draft CHAP was submitted for comments to the Jamoat Chairperson, *Water, Sanitation and Health (WASH) Committee* members and <insert name of village>` citizens on <insert date>.
- The draft CHAP was amended following public review and comments by <insert name of village> on <insert date>.

- The CHAP was approved by the Chairperson of the <insert name of Jamoat> on <insert date>.

The *Water, Sanitation and Health (WASH) Committee* members with technical and material support from the TSDWP staff members are responsible for guiding and leading community level implementation of the approved CHAP.

- **Participants of the *Community Health Action Planning Workshop***

The following community representatives took part in the *Community Health Action Planning Workshop*:

<insert list of participants from the original (Tajik) version of CHAP >

- 1.
- 2.
- 3.

- **What is the linkage between the *Community Health Action Planning Workshop* and the *Community Health Action Planning Process*:**

The *CHAP Workshop* conducted in <insert date> was one of the main elements of the *Community Health Action Planning* process. Workshop follow-up activities included approval of CHAP and commencement of its implementation. Before the *CHAP Workshop*, the above-mentioned stakeholders conducted a *Stakeholder Round Table*. This Round table is one of the crucial steps in the CHAP planning process. Next, *Community Health Index (CHI)* data was collected at the community level by the project staff jointly with the active village citizens. The collected data was used during CHAP development and will be used throughout project implementation. Following Workshop and the public review, the draft CHAP was analyzed, reviewed and amended by the *WASH Committee* and submitted for approval to the Jamoat Chairperson.

<insert picture from the original (Tajik) version of CHAP>

<insert picture from the original (Tajik) version of CHAP>

Picture 2: <insert caption>

Picture 3: <insert caption>

I. MISSION AND VALUES

2.1. The Goal of the Establishment of a *Water, Sanitation and Health (WASH) Committee*

The main goal of the establishment of a *Water, Sanitation and Health (WASH) Committee* is addressing the issues of local concern related to safe water supply, health and hygiene. This will be done in collaboration with the USAID-Tajikistan *Safe Drinking Water Project*.

2.2. Responsibilities of the *Water, Sanitation and Health (WASH) Committee*

Workshop participants have identified the following responsibilities of the *Water, Sanitation and Health (WASH) Committee*:

- To identify issues of local concern related to access to safe drinking water, health and hygiene in the village;
- To find ways to address identified issues of local concern;
- To discuss all ideas and recommendations with the villages citizens;
- To mobilize community in different volunteer public activities like *"hashar"*(traditional community self-help activity);
- To find solutions to improving level of service provision;
- To conduct regular meetings with health workers and teachers;
- To collect needed data and inform the community and the TSDWP staff members of any problems;
- To form groups comprised of women, man and children to participate in health education sessions;
- To identify infectious waterborne diseases in the villages;
- To provide any assistance to health workers to conduct health education sessions;
- To work to support the sustainability of the community's safe drinking water supply.

2.3 The Values of the *Water, Sanitation and Health (WASH) Committee*

All *Water, Sanitation and Health (WASH) Committee* members have declared that both the community and Committee members should adhere to the following values:

Table # 1.

What qualities, behavior should a person have to be respected in the community, family, or work place?	What conditions, behavior and interaction should be in the Institution to ensure the sustainability of its activities?
Human Values	Institutional values
<insert list of values from the original (Tajik) version of CHAP>	<insert list of values from the original (Tajik) version of CHAP>

3. ANALYSIS.

3.1 Identifying Stakeholders

Internal Community Stakeholders

<insert list of stakeholders from the original (Tajik) version of CHAP>

External Stakeholders

<insert list of stakeholders from the original (Tajik) version of CHAP>

3.1 SWOT - *Strengths, Weaknesses, Opportunities and Threats*

Strengths of the community

<insert strengths from the original (Tajik) version of CHAP>

Weaknesses of the community

<insert list of weaknesses from the original (Tajik) version of CHAP>

Opportunities of the community

<insert list of opportunities from the original (Tajik) version of CHAP>

Threats to the community

<insert list of threats from the original (Tajik) version of CHAP>

Weaknesses and Threats Analysis

Table # 2.

#	Weaknesses	Ways to address shortcomings
1	<insert list of weaknesses from the original (Tajik) version of CHAP>	<insert list of ways to address shortcomings from the original (Tajik) version of CHAP>
2		
3		
4		
5		
6		
7		
	Threats	Ways to reduce likelihood of threats
1	<insert list of threats from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>
2		
3		
4		
5		

IV. Community Health Action Plan

Strategic Plans

Strategic issues related to water, health and hygiene

<insert list from the original (Tajik) version of CHAP>

- **What will happen if we do not address these issues?**

<insert list from the original (Tajik) version of CHAP>

Grouping major issues into strategic issues

1) Issues related to water

<insert list from the original (Tajik) version of CHAP>

2) Issues related to health and hygiene

<insert list from the original (Tajik) version of CHAP>

Identifying strategies

- **Strategic Issue #1:** <insert from the original (Tajik) version of CHAP>
- **Strategic Issue #2:** <insert from the original (Tajik) version of CHAP>

Table # 3.

#	Objectives	Activities: What are the practical alternatives, dreams, or visions we might pursue to address these issues and achieve our goal?)	What are the barriers to realizing these alternatives (threats)?	What major initiatives might we pursue to achieve these alternatives, and overcome the barriers (opportunities)?
1	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>
2				
3				
4				
5				
6				

Table# 4

No	Objectives	Activities	Potential Risks	Risks Mitigation
1	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>	<insert list from the original (Tajik) version of CHAP>
2				

3				
4				
5				
6				

4.1 Development of the *Community Health Action Plan*

Community Health Action Plan (CHAP)

<insert period from the original (Tajik) version of CHAP>

Activities	2010				2011				2012				Responsible person or group
	I	II	III	IV	I	II	III	IV	I	II	III	IV	
Strategic issue # 1: <insert from the original (Tajik) version of CHAP>													
Objective 1: <insert from the original (Tajik) version of CHAP>													
Activity 1: <insert from the original (Tajik) version of CHAP>													
Activity 2: <insert from the original (Tajik) version of CHAP>													
Activity 3: <insert from the original (Tajik) version of CHAP>													
Activity 4: <insert from the original (Tajik) version of CHAP>													
Activity 5: <insert from the original (Tajik) version of CHAP>													
Activity 6: <insert from the original (Tajik) version of CHAP>													
Objective 2: <insert from the original (Tajik) version of CHAP>													

ANNEX 4

WATER SUPPLY SYSTEMS REHABILITATED BY TSDWP

#	Community	System	Meters of Pipe	Tap stands
1	Shaikh Muzaffar Village, 1-May Jamoat, Tursunzoda Raion	Pump	1 160	6
2	Water in Western part of Khuji Bolo Village, Chuzi Jamoat, Shahrinav Raion	Pump	5 500	25
3	Halqajar and Hazhdahum Hizb villages, Sadridin Ayni Jamoat, Khuroson Raion	Pump	5 100	13
4	Mirzo Tursunzoda Street Neighborhood, Ismoil Somoni Jamoat, Bokhtar Raion	Pump	330	3
5	Khojachildiyori Bolo Village, Mirzo Rizo Jamoat, Hisor Raion	Gravity	5 352	15
6	Chashmasor Village, Jamoat-Dehot Chashmasor, Faizobod Raion	Gravity	2 100	6
7	Hojiboi Village, Esanboi Jamoat, Rudaki Raion	Gravity	5 400	3
8	Nusratullo Makhsum Street Neighborhood, Jamoat-Shahrak Sarband, Sarband Raion	Pump	2 400	10
9	1 May Village, 1 May Jamoat, Tursunzoda Raion	Pump	1 620	3
10	Sarband Jamoat-Shahrak of Sarband Raion	Pump	2 500	12
11	I. Somoni Jamoat-Shahrak of Bokhtar Raion	Pump	1 725	2
12	Miskinobod and Navobod Villages, Tojikobod Jamoat, Vakhsh Raion	Pump	7 300	25
13	Navobod Village, Sabo Jamoat, Shahrinav Raion	Pump	3 025	13
14	Husnobod Village, Rabot Jamoat, Tursunzoda Raion	Gravity	6 650	7
15	Teppai Samarqandi Village, Rohati Jamoat, Rudaki Raion	Gravity	5 395	5
16	Nilu Village, Khonakoi Kuhi Jamoat, Hisor Raion	Gravity	6 510	3
17	Qulmunda Village, Dehqonobod Jamoat, Hisor Raion	Pump	2 220	-
18	Mehnatobod Village, Mehnatobod Jamoat, Bokhtar Raion	Pump	3 994	12
19	Pakhtaobod Village, Jamoat-Shahrak Pakhtaobod, Tursunzoda Raion	Pump	530	-
20	Budyoni and Chorogi Kuhna Villages, South-Western part of Uyali Settlement, S. Ayni Jamoat-Dehot, Khuroson Raion	Pump	4 117	12
21	Boboi Vali & Darai Gusfandak Villages, Qalai Dasht Jamoat-Dehot, Faizobod Raion	Gravity	12 786	10
22	Vakhsh Village, Vahdat Jamoat-Dehot, Sarband Raion	Pump	1 601	3
23	Yakkabed, Ustoshams, Mehrobod 1, Mehrobod 2, Mehrobod 3, Nodiri Kulobod, Kulul and Sheramon Villages, Mehrobod Jamoat-Dehot, Faizobod Raion	Gravity	11 740	-

24	Qyzilgul, Guliston Villages of Mehnatobod Jamoat-Dehot and Komsomol, Lenin yuli, Guli Surkh Villages of Navbahor Jamoat-Dehot, Bokhtar Raion	Pump	80	35
25	Faizobod Town, Faizobod Jamoat-Shahrak, Faizobod Raion	Pump	3 205	-
26	Sohili Village, Hisor Jamoat Shahrak, Hisor Raion	Pump	2 330	9
27	Navkor, Kalinin, Sverdlov and Pakhtaqaingar villages of Sarvati Istiqlol Jamoat, Bokhtar Raion	Pump	2 195	14
28	Ferma Village, Tojikobod Jamoat, Vakhsh Raion	Pump	3 745	5
29	Pakhtaobod (Navobod) Village, Tojikobod Jamoat, Vakhsh Raion	Pump	5 206	15

ANNEX 5

TRAINING MODULES OF TSDWP HEALTH COMPONENT



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USAID-Tajikistan Safe Drinking Water Project TRAINING MODULES FOR CHILD-TO-CHILD TRAINERS



HEPATITIS



TYPHOID



DIARRHEA



**SAFE DRINKING
WATER**



HYGIENE

DUSHANBE 2010

These modules are made possible by the support of the American People through the United States Agency for International Development (USAID.) The contents of this manual are the sole responsibility of Save the Children Federation, Inc. and do not necessarily reflect the views of USAID or the United States Government.

ORGANIZATION OF MODULES

- Purpose of the training module
- Content
- Objectives
- Welcome
- Brain-storming
- Facts and Figures
- Technical Content
- Group discussion
- Role-playing exercise
- Development of Scope of Work for the volunteers

ORDER OF THE MODULES

1. Hepatitis
2. Typhoid
3. Diarrhea
4. Safe Drinking Water
5. Hygiene



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USAID-Tajikistan Safe Drinking Water Project

TRAINING MODULE FOR HEALTH EDUCATORS: HEPATITIS



Dushanbe 2010

Purpose of the training module:

To provide capacity building support to the local health workers to enhance their skills on causes, prevention and treatment of water borne infectious diseases. Trained health workers will further raise public awareness about all above-mentioned issues through health education sessions and dissemination of the education materials.

This module covers **hepatitis that** is one of the most common water borne infectious diseases.

TRAINING MODULE: HEPATITIS A

Viral Hepatitis A is an infectious disease characterized mainly by the affected liver, and in particular intoxication syndrome, enlarged liver and sometimes jaundice. The virus is transmitted by fecal-oral spread.

Objectives:

- Explain the relationship between the safe drinking water, hygiene and health;
- Raise local health workers awareness about water borne infectious diseases caused by failure to comply with sanitation standards;
- Raise local health workers awareness about water borne infectious diseases transmission.

Welcoming: (5 minutes)

Ask participants to assess their mood as per the 10-score rating sheet, using associations – for example with some musical instruments (such as *dutor*, *doyra* etc.).

Brain-storming: (5 minutes)

- *What water borne infectious diseases do you know?*
- *What are the causes of water borne infectious diseases?*
- *What is **hepatitis**?*

Untreated water, inadequate sanitation and poor hygienic conditions are the causes of about 80% of the waterborne infectious diseases, such as typhoid, diarrhea, **hepatitis**, and etc. There is a close relationship between health, safe drinking water and good sanitation. It is easy to prove that consumption of safe drinking water along with compliance with sanitation standards can reduce infant mortality rates by 55% and spread of **hepatitis** by 26%.

Group discussion (20 minutes). *Divide participants into 3 groups and ask them to prepare presentations on the following topics:*

- **Relationship between water-borne infectious diseases and water.**
- **Causes of waterborne infectious diseases.**
- **Prevention of waterborne infectious diseases.**

(Participants can share some examples from their professional experience).

The most common viral disease transmitted through the alimentary infection is viral **hepatitis A** or the so-called **infectious hepatitis**.

The disease is most common in countries with hot climate and poor sanitary conditions. The prevalence of **hepatitis A** virus (HAV) infection is also high in Central Asia, especially among children.

Hepatitis is a common and deadly viral disease caused by different types of viruses, which most commonly affect the liver. There are 5 types of **hepatitis: A, B, C, D and E.**

The **virus** lives long in the open **environment, especially in the water and doesn't** (apparently) lose **its** virulence that explains the spread of this disease.

Hepatitis A virus is acid-resistant. This helps the virus that enters human body through consumption of the contaminated food and water to pass sour stomach's protective barrier.

Hepatitis A virus is stable in aqueous medium; therefore water is a typical mode of infection transmission. **Hepatitis A virus (HAV)** is highly immunogenic: **HAV** primarily occurred during childhood provides lifelong immunity against this disease.

Transmission / Exposure

How is Hepatitis A spread?

Hepatitis A is usually spread when the Hepatitis A virus is taken in by mouth from contact with objects, food, or drinks contaminated by the feces (or stool) of an infected person. Infected person is usually a carrier of the thousand hepatitis A viruses. **Hepatitis A** is also transmitted through dirty hands; therefore pre-school children are at high risk of contracting this disease.

Viruses enter intestine through consumption of the contaminated water or food and then, through the bloodstream enter liver and incorporate into its cells - hepatocytes. Viral particles -virions multiply in the cytoplasm of liver cells. Then they bypass the liver, enter bile ducts and excrete with bile into the intestine.

The inflammatory process in the liver leads to damage of hepatocytes and affects liver.

This leads to the increased cell death of HAV-infected hepatocytes, the development of inflammation (**hepatitis**) and abnormal liver function.

Hepatitis B is transmitted from infected person to healthy individuals through needles used for injections of the person infected with hepatitis virus or contaminated blood. It should be also mentioned that recovery period for **hepatitis B** is long lasting and it has complications.

Incubation period

Hepatitis A has an incubation period of 7 to 50 days. This is the time from the exposure to the **hepatitis A virus** until the onset of the disease.

Hepatitis A is transmitted from infected person to healthy individuals through close contact with the person infected with **hepatitis A** virus, or tools and items used by the infected person or contaminated food and water.

The initial symptoms of HAV include a recurrent high temperature (fever) , and later fatigue, nausea, abdominal pain, loss of appetite and after 2-4 days several days other symptoms may follow : dark urine (color of strong brewed tea foaminess), and, bowel movements that are whitish or light yellow and may be looser than normal. Later symptoms include jaundice (a yellowing of the skin and whites of the eyes).

When the latter symptoms develop (jaundice), the infected person usually begins to get better. The duration of this disease is typically 1 week, but it can last up to 1, 5-2 months.

In some people symptoms of **hepatitis A** recur in 6months.

Most cases of **hepatitis A** resolve themselves spontaneously.

Most people who get **hepatitis A** recover completely in a matter of several days.

In the acute phase patient should follow a Pevsner diet, and have a lot of liquids and comply with bed rest. Also in the acute phases of this disease, the doctor will prescribe liver –protecting drugs.

How is type hepatitis diagnosed?

The doctor will take a thorough medical history with emphasis on the areas visited by the person within the last month, food and water consumption, contacts with persons infected **with hepatitis A virus**. He or she may palpate the area over the liver to check for tenderness or enlargement and can order for the following laboratory tests: blood tests, including tests to determine what type of **hepatitis** you, coagulogram, analysis of a urine sample.

Treatment of hepatitis A

The usual treatment at home is bed rest (with the exception of the acute phase), however home care has a potential risk of contracting this disease by your household members.

Usually patients at home do not follow a balanced diet that leads to complications of this disease.

In some acute cases, doctors may prescribe special medical products to clean patient body from the viruses.

In the hospital doctors usually recommend that patients get plenty of bed rest, drink plenty of fluids, and follow a special; diet (diet # 5);

Liver protecting drugs are prescribed depending on the disease phase, if required (such as liv-52, essential etc)

If you have been exposed to someone who is infected with HAV, there is a treatment that may prevent you from becoming infected. It is called immune globulin and is more likely to be effective when given within 2 weeks of exposure. This will allow protecting body for a short time from infection or from development of the disease in case if contracting **hepatitis** took place.

Prevention of hepatitis A.

The basic measure of **hepatitis A** prevention is observance of good hygiene measures.

- Wash hands with soap well:
 - Before and after eating food
 - After using the toilet
 - After tending to someone who is sick
 - Before preparing food
 - After cleaning up a child who has used the toilet
 - After handling an animal or animal waste etc.

- vaccinate children against **Hepatitis A**;
- Drink boiled water only;
- Do not eat non-peel able raw fruits or vegetables unless cleaned thoroughly
- Dispose used needles.
- Also it is strongly recommended to vaccinate newborn children against **hepatitis A** within 24 hours afterbirth;
- It is highly recommended to teach children to observe better hygiene practices;
- However, it is highly recommended that if possible to isolate children from the people infected with **hepatitis A** virus.

Immunity

Infection with the virus gives lifelong immunity (protection) against the virus.

Vaccinations against hepatitis A.

- The infant needs to receive the first shot **within 12 hours after birth.**

Who is at risk of getting hepatitis A and is eligible for hepatitis A vaccine?

- People with high risk of contracting virus, such as people who are traveling to parts of the world where **hepatitis A** virus infections are common (like tourists, contractors, military servants);
- Health care workers, especially those that are working in the infectious diseases hospitals;
- Teachers and personnel working in Child day-care settings;
- Food handlers and sewage sector workers;
- Patients with chronic liver diseases.

A role-playing exercise (15 minutes)

Ask participants to prepare a role-play on the causes of water borne infectious diseases and their spread through consumption of untreated water and dirty fruits, and contact with infected person (5 minutes).

Discuss demonstrated role playing game and make conclusion.

Work in small groups (15 minutes): *Divide participants into 3 small groups and have them work on the following exercises:*

Exercise for Group 1: *Role of radio, television and newspapers in prevention of water borne infectious diseases (list advantages and disadvantages).*

Exercise for Group 2: *Role of education materials including booklets, leaflets, posters and brochures in prevention of water borne infectious diseases (list advantages and disadvantages)*

Exercise for Group 3: *Importance of public awareness campaigns including seminars, discussions, debates, health kiosks in prevention of water borne infectious diseases.*

Presentations by small groups and discussions.

Development of Scope of Work for the volunteers (10 minutes)

Write down Scope of Work for volunteers on the flip charts and explain that it will include the following:

- Each volunteer will work with 50 assigned households.
- Specific activities for 1 month work with assigned households includes a) on-going visits to households, b) intensive work with students, c) filling questionnaires, d) conducting interviews, e) distribution of handouts on prevention of infectious water borne diseases among different targeted groups etc.
- Volunteers jointly with the Health Assistant, Health Project Officer, and trainers will establish *Health Data Kiosks (a self-service health information bar)* in each Jamoat as per the approved schedule.
- Volunteers will submit their progress reports to the Health Assistant on a monthly basis by 30th day of each month.
- Meetings with volunteers and monitoring visits in each jamoat will be conducted twice a month according to the approved schedule.

This module developed by the employees of the Branch of Save the Children Federation, Inc. in the Republic of Tajikistan contains information produced by this organization.

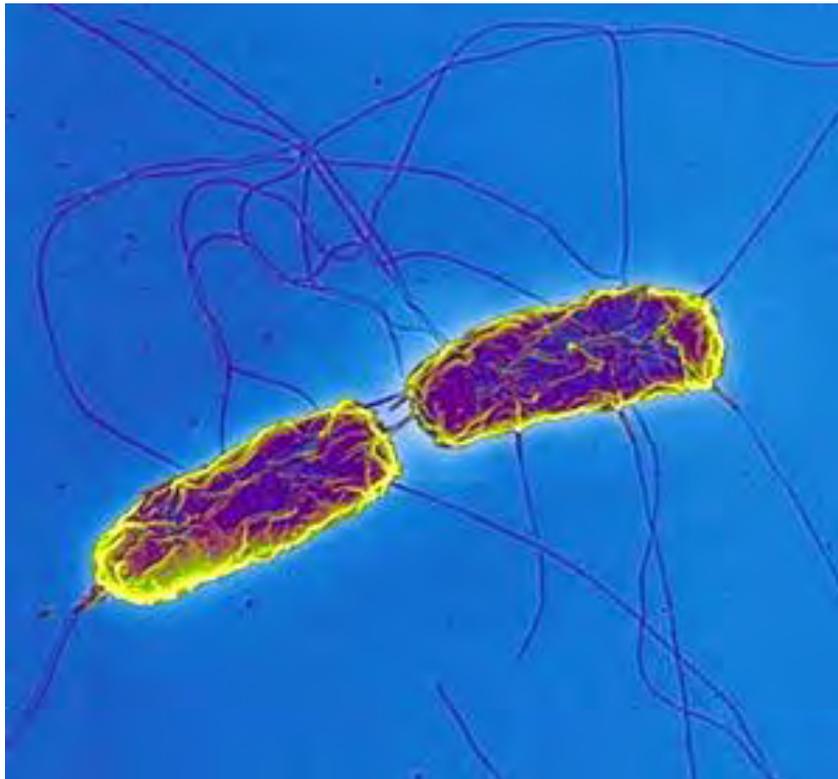


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USAID-Tajikistan Safe Drinking Water Project

TRAINING MODULE FOR HEALTH EDUCATORS: TYPHOID



Dushanbe 2010

Purpose of the training module:

To provide capacity building support to the local health workers to enhance their skills on causes, prevention and treatment of water borne infectious diseases. Trained health workers will further raise public awareness about all above-mentioned issues through health education sessions and dissemination of the education materials.

This module covers typhoid that is one of the most common water borne infectious diseases.

TYPHOID

Typhoid fever, also known as **typhoid**, is an acute bacterial infection, transmitted by the ingestion of food or water contaminated with the feces of an infected person, and characterized by localized inflammation, redness and warmth at **infection site**, bacteremia with signs of intoxication, fever, and a rash, as well as enlarged liver and spleen – most commonly caused by the bacteria.

Objectives:

- Explain the relationship between the safe drinking water, hygiene and health;
- Raise local health workers awareness about water borne infectious diseases caused by failure to comply with sanitation standards;
- Raise local health workers awareness about water borne infectious diseases transmission.

Welcoming: (5 minutes)

Ask participants to assess their mood as per the 10-score rating sheet, using associations – for example with some musical instruments (such as *dutor*, *doyra* etc.).

Brain-storming: (5 minutes)

- *What water borne infectious diseases do you know?*
- *What are the causes of water borne infectious diseases?*
- *What is **typhoid**?*

Role of drinking water in human health is essential. Infectious diseases are the most common human infectious diseases worldwide. **Intestinal** parasites are **common** ailment in **human** body. **Typhoid** and Hepatitis A and E are food and water borne infectious diseases. Consumption of the

untreated drinking water, mudflow and failure to comply with the rules of personal hygiene are the main causes of the **typhoid** outbreaks.

Group discussion (20 minutes). *Divide participants into 3 groups and ask them to prepare presentations on the following topics:*

- **Relationship between water-borne infectious diseases and water.**
- **Causes of waterborne infectious diseases.**
- **Prevention of waterborne infectious diseases.**

(Participants can share some examples from their professional experience).

Infectious Agent

Salmonella Typhi, a moving rod-shaped bacteria classified in the family Enterobacteriaceae of the genus Salmonella –group D is the bacterium that causes **typhoid** fever.

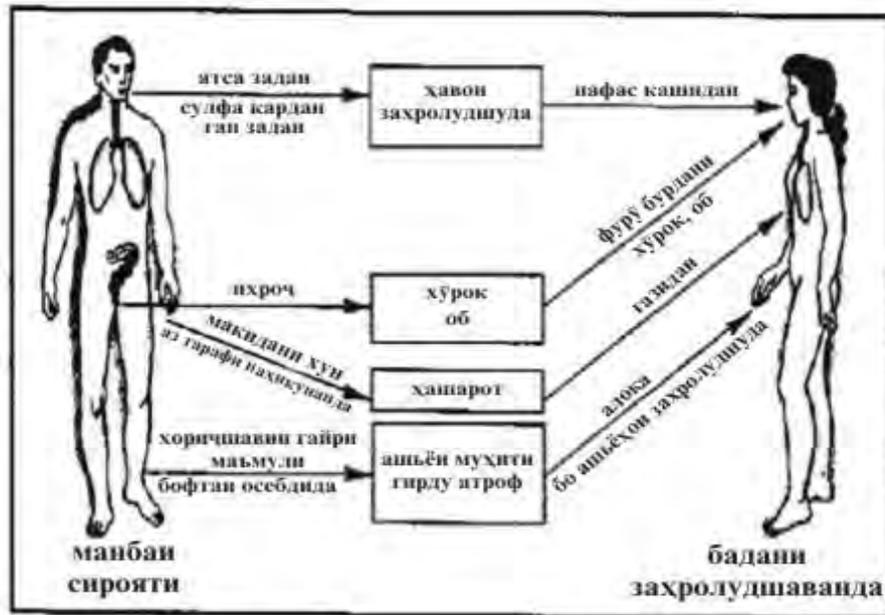
Stability of the Infectious Agents

The bacterium that causes **typhoid** fever is very active and sustainable in the environment. They typically remain active for 5 to 30 days on fresh water ponds (several months in July), up to 2 weeks on wastewater and soil irrigation fields, 1 month in the pit, up to 10 days in fruits and vegetables, up to 4 months in salt water and up to several months - in the milk, yogurt, sour cream, meat products and other food products and can multiply.

The heating has a destructive effect on bacteria: they survive for 1 hour at 50 °C, 30 minutes at 58-60°C, and die immediately at 100 °C.

How is Typhoid fever Spread?

Persons with **typhoid** fever carry the bacteria in their bloodstream and intestinal tract. In addition, a small number of persons, called carriers (acute, chronic and inveterate bacterial infection), recover from **typhoid** fever but continue to carry the bacteria. Both ill persons and carriers shed *Salmonella Typhi* in their feces (stool).



The risk of complications of **typhoid** in the patient/sick person varies depending on the disease phase and this is due to some of the peculiarities of this disease.

Typhoid occurs in all climatic regions and parts of the world. However to a larger degree it is extended in the countries with a hot climate, poor sanitation, and problems with housing/communal services.

Transmission of pathogens often occurs via fecal-oral transmission food, like consumption of the contaminated water and that causes human infection. The virus can be spread via casual contacts is rare cases, and mainly among children. The risk of food contamination is high due to the fact that bacteria (*Salmonella*) can grow on any products or even multiply in some food products (such as dairy, cold meat). Many different disease-causing microbes, or pathogens, can contaminate foods and healthy people can be exposed to a very high infectious dose.

Typhoid fever is liable to epidemic especially in spring time among population living in the lower parts of the source of contamination- places where surface waters are polluted through improper sewage disposal.

In summer time accidental ingestion of contaminated water in the pools especially by young children while swimming can cause typhoid fever. The prevention of water-borne infectious diseases, especially **typhoid** fever primarily depends on the provision of safe drinking water, the quality of which may get worse due to natural hazards (earthquake, landslides, floods etc).

Food borne transmission of *salmonella typhi* usually involves easier symptoms in comparison to the water-borne transmission of bacteria. It has shorter incubation period starting from the ingestion and up to recovery and the risk of complications leading to fatality is usually low.

However in some rare cases it may also have complications.

Food-borne Outbreaks of Typhoid fever

Food-borne outbreaks of **typhoid** fever are associated with consumption of the contaminated milk and dairy products especially in hot period when stored without refrigeration as viruses not only grow on products but also multiply. .

Spread of infection through consumption of vegetables, fruits and bread is observed in rare cases. Contaminated food and water/liquid products are the results of non-compliance with the sanitation standards and rules for row products processing, storage, transportation and use.

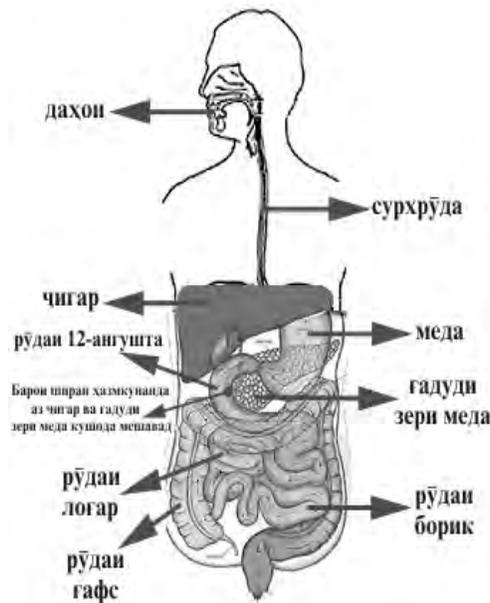
The outbreak associated with the consumption of the commercially bottled milk is similar to the water borne transmission of bacteria, but unlike the last, the infectious doze is higher, that is why the incubation period is short, risk of mortality is high.

The outbreak associated with the consumption of milk, usually sold in the market and not boiled prior consumption is most commonly of episodic nature, less endemic.

The risk of contracting **typhoid** through close contact with infected person and use of household items, by dirty hands, dishes and linens belonging to the infected people is not so high, but still exists.

Flies also play an essential role in transmission of infection in the overpopulated areas with poor sanitation and hygiene conditions. However, infection rates transmitted by flies have drastically reduced over the last years.

The cause of **typhoid** fever is ingested through the mouth, passes into the small intestine, and goes into the lymph formation of the small intestine – peyer's patches and solitary follicles (Figure 2).



Some people do not fully recover from this disease and the bacteria stay in their bodies, especially in gallbladder and bile ducts.

The incubation period is 3 days up to 4 weeks, and 2 weeks in average.

Clinical Features



Clinical features

The incubation period for **typhoid** fever is usually 3 to 25 days, often 10-14 days. The illness starts gradually though sometimes it has acute beginning. The classical sign of typhoid is fever. Fever is continuous and increases as the disease progresses- usually by 4 - 7th days of the disease. Persons with **typhoid** fever may also feel weak, or have headache, loss of appetite, and insomnia.

Fever is continuous and increases as the disease progresses – up to 2-3 weeks. The temperature may fluctuate significantly during the day. In the first days of sickness the skin gets pale and dry.

On 8-9 days rosy spots (D=2-3mm) may appear on the lower chest and upper abdomen which disappear when pressed. The rash usually resolves in 3-5 days, although it may last up to several weeks in severe cases. It then progresses to a bluish white plaque on the thick tongue, with only edge and tip uncovered.

Increase in **liver** and **spleen** size takes place by the end of the 1 week of illness.

Coughing, wheezing may occur in the early days of the disease

In the midst of disease pulse frequency gets behind the temperature and relative bradycardia is observed (example, at t 39-40° C, pulse 80-90 strokes in 1 min). Later symptoms include a biphasic pulse and low blood pressure. As the disease develops, patients become inhibited and it might increase the risk of delirium in patients.

The patient gets better with restoration of the normal temperature. .

Sometimes during the recovery phase (decrease of the temperature and lack of headaches, improved appetite and sleep), the following danger signs of typhoid may appear: fever, severe headache, insomnia and a pink rash

This is the acute phase of this illness that must be distinguished from its recurrence. After several days or week during which the temperature remains stable, some symptoms of typhoid fever may again appear. They usually occur lighter and shorter.

In most of the cases, relapses are caused by non-compliance of bed rest and diet, trauma, stresses and full antibiotic therapy. Signs of possible relapse may include sub-febrile temperature, tachycardia, absence of eosinophils in the blood (aneosinophilia), and increase in size of spleen.

Intestinal bleeding perforation of the colon which is usually observed on the 2-3 week of the illness is one of the most severe complications. There might also be additional complications such as pneumonia, bedsores, parotitis, thrombophlebitis, otitis, tsisit, cholecystitis, myocarditis, meningitis and etc.

Diagnosis of Typhoid fever

The doctor will take a thorough medical history with emphasis on the areas visited by the person within the last month, food and water consumption, contacts with persons infected **with typhoid fever virus** and may order for the certain laboratory tests.

The level of reduced leucopenia with stab shift, neutropenia, relative lymphocytosis, aneozinofiliya is dramatically reduced during this disease.

The most accurate confirmation of the diagnosis is made on the basis of the laboratory tests. Blood culture remains the most effective investigation for diagnosis of typhoid. Analysis of a urine sample and convalescent might be also required.

A role-playing exercise (15 minutes)

Ask participants to prepare a role-play on the causes of water borne infectious diseases and their spread through consumption of untreated water and dirty fruits, and contact with infected person (5 minutes).

Discuss demonstrated role playing game and make conclusion.

Treatment

Hospitalization is usually required for acute phases of this infection.

Treatment may speed up **recovery**. With restoration of a normal body temperature, the patient should comply with strict bed rest and diet within the first 6 - 7 days and can walk only after 10 or 12 days.

The diet should include digestible and rich in vitamins, high-calorie food (soups, meat, cheese, yogurt, porridges, juices etc).

Antibiotic therapy may include one or more to the following agents: chloramphenicol, ampicillin, and bisector. To prevent recurrence of the infection, vaccination in combination with the antibiotics therapy should be applied.

Treatment course also includes such medical products as polygon solutions Haemodesum, reopolyglukine etc.

The following medicaments are prescribed for better functionality of the heart and blood vanes: cardiovascular and sleeping pills, ascorbic acid and B group vitamins.

The patients suffered from **typhoid** fever are discharged from hospital upon full recovery, but not earlier than 21 days from restoration of the normal temperature (after antibiotic therapy).

Prevention of Typhoid Fever

- **Control of sanitation:**

Improvement of water supply systems and provision of safe drinking water, promotion of basic sanitation through education campaigns, conducting regular voluntary clean-up works in the populated areas, strengthening of health surveillance catering, promotion of good personal hygiene in certain populated area (stations, airports, schools, etc) are essential measures to interrupt transmission of **typhoid** fever. When sanitation is combined with health education, the effects tend to be cumulative, resulting in a steady reduction of **typhoid** morbidity.

It is also essential to identify bacilli carriers, especially among food companies and institutions serving children, health education.

Specific prevention has secondary importance.

- **Immunization**

Immunization against **typhoid** does not provide 100% protection, but it definitely lowers both the incidence and seriousness of the infection. It is recommended for:

- a) Those living in endemic areas (> 25% of 000); b) people travelling to a country where typhoid is common such as Asia, Africa and Latin America; c) family members of chronic carrier; d) family members of all above mentioned categories of population.
- People living in areas where a threat of an epidemic or outbreak of **typhoid** is high (natural hazards, emergencies and breakdowns in the water supply and sewage system).

If the outbreak has already begun, vaccination should not be pursued.

- I. Groups at a risk of infection such as children aged 7-14 years are subject to injectable vaccines according to the immunization schedule: Type of vaccine; abdominal-typhoid vaccine alcohol (for primary immunization the doze is 0, 5. Revaccination is recommended after 2 years.
- II. Persons from 15 to 55 years are also subject to injectable vaccines according to the immunization schedule, (for primary immunization the doze is 1.0. Revaccination is recommended after 6 months);

When to vaccinate: By April, 3-4 weeks before the seasonal outbreak of infection.
Bacteriophages can also be used in combination with the vaccine.

There are no restrictions for use of bacteriophage.

Work in small groups (15 minutes): *Divide participants into 3 small groups and have them work on the following exercises:*

Exercise for Group 1: *Role of radio, television and newspapers in prevention of water borne infectious diseases (list advantages and disadvantages).*

Exercise for Group 2: *Role of education materials including booklets, leaflets, posters and brochures in prevention of water borne infectious diseases (list advantages and disadvantages)*

Exercise for Group 3: *Importance of public awareness campaigns including seminars, discussions, debates, health kiosks in prevention of water borne infectious diseases.*

Presentations by small groups and discussions.

Development of Scope of Work for the volunteers (10 minutes)

Write down Scope of Work for volunteers on the flip charts and explain that it will include the following:

- Each volunteer will work with 50 assigned households.
- Specific activities for 1 month work with assigned households includes a) on-going visits to households, b) intensive work with students, c) filling questionnaires, d) conducting interviews, e) distribution of handouts on prevention of infectious water borne diseases among different targeted groups etc.
- Volunteers jointly with the Health Assistant, Health Project Officer, and trainers will establish *Health Data Kiosks (a self-service health information bar)* in each Jamoat as per the approved schedule.
- Volunteers will submit their progress reports to the Health Assistant on a monthly basis by 30th day of each month.
- Meetings with volunteers and monitoring visits in each jamoat will be conducted twice a month according to the approved schedule.

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USAID-Tajikistan Safe Drinking Water Project

TRAINING MODULE FOR HEALTH EDUCATORS: DIARRHEA



Dushanbe 2010

Purpose of the training module:

To provide capacity building support to the local health workers to enhance their skills on causes, prevention and treatment of water borne infectious diseases. Trained health workers will further raise public awareness about all above-mentioned issues through health education sessions and dissemination of the education materials.

This module covers **diarrhea** that is one of the most common water borne infectious diseases.

Training Module: Diarrhea

Points to remember:

- **Diarrhea** is a condition characterized by frequent evacuation of abnormally soft or liquid stools (more than 3 stools per day).
- **Diarrhea** can be of the infectious nature, usually associated with the presence of viral infection, or a non-communicable disease, side effects of medications or can be of a functional nature due to intestinal dysbiosis, or lactase deficiency.
- **Acute diarrhea** lasts for several days and often goes away by itself or after medical treatment. **Acute diarrhea** is often caused by viral and bacterial infection of the gastrointestinal tract (GIT), food poisoning, anxiety, medications, food and alcohol.

Objectives

- Explain the relationship between the safe drinking water, hygiene and health;
- Raise local health workers awareness about water borne infectious diseases caused by failure to comply with sanitation standards;
- Raise local health workers awareness about water borne infectious diseases transmission.

Welcoming: (5 minutes)

Ask participants to assess their mood as per the 10-score rating sheet, using associations – for example some phenomenon of nature, (e.g. the sun shines brightly, a strong wind blows, a gentle breeze blows, etc.).

Brain-storming: (5 minutes)

- *What water borne infectious diseases do you know?*
- *What are the causes of water borne infectious diseases?*
- *What is **diarrhea**?*

Untreated water, inadequate sanitation and **poor** hygienic conditions are the causes of about 80% of the waterborne infectious diseases, such as typhoid, **diarrhea**, hepatitis, and etc. There is a close relationship between health, safe drinking water and good sanitation. It is easy to prove that consumption of safe drinking water along with compliance with sanitation standards can reduce infant mortality rates by 55% and spread of **diarrhea** by 26%.

Group discussion (20 minutes). *Divide participants into 3 groups and ask them to prepare presentations on the following topics:*

- **Relationship between water borne infectious diseases and water.**
- **Causes of water borne infectious diseases.**
- **Prevention of water borne infectious diseases.**

(Participants can share some examples from their professional experience).

Causes of diarrhea:

- One of the causes of **diarrhea** is parasites existing in the contaminated food products, untreated water, and animal feces/ human stools.
- Eating dirty fruits and vegetables
- Eating undercooked food
- Failure to wash hands thoroughly with soap after using the toilet, Before and after preparing food, before feeding children, after cleaning up a child who has used the toilet;
- Consumption of untreated water
- Parasites
- Stopping breastfeeding very early etc

Symptoms of diarrhea

- *Frequent, watery bowel movements;*
- *Excessive loss of water (dehydration)*
- *Thirst*
- *Nausea and vomiting,*
- *A mild fever*
- *Appetite fades,*
- *Stools with blood*
- *Flatulence,*
- *Eyes hollow A state of shock and fainting.*

How dangerous is diarrhea?

When people, especially the elderly or young children are ill with **diarrhea**, they are at risk of complications from loss of fluids (dehydration), sodium chloride and potassium and other electrolytes. In the worst cases, it can result in fatality.

Dehydration is characterized by dizziness, dryness of mucous membranes, thirst, disorientation in time and space, or lack of response to external stimuli.

Diagnosis

Most importantly is to identify the cause of **diarrhea**. The gastroenterologist or a physician will examine you and ask in details about the beginning of the disease. Then the doctor will give an appointment card to feces examination. With chronic **diarrhea**, most likely, you will be required for blood count (CBC) urinalysis, and an abdominal ultrasound.

A role-playing exercise (15 minutes)

Ask participants to prepare a role-playing game on the causes of water borne infectious diseases and their transmission via consumption of untreated water and dirty fruits, and contact with infected person (5 minutes).

Discuss demonstrated role playing game and make conclusion.

Diarrhea Treatment

Despite the fact that important information related to diarrhea, its causes, prevention and treatment is disseminated through the mass media, the number of reported **outbreaks** caused by self-treatment at home that leads to complications of this disease has dramatically increased.

To prevent complications of the **diarrhea**, get medical help immediately in case if you observe frequent watery bowel movements in elderly people and children.

Treatment course largely depends on the cause of **diarrhea**. Therefore it is extremely important to determine the cause of this disease.

If you have **diarrhea**, it is crucial to prevent dehydration in infected people, as people mainly die not from diarrhea, but due to the large amount of water lost and the loss of salts that accompanies it (dehydration).

Dehydration causes losses of mineral salts, electrolytes and proteins. Since the normal drinking water does not contain sugar and mineral salts, their losses during **diarrhea**, should be compensated by taking plenty of liquids containing these substances, e.g. oral rehydration treatment and zinc supplemental can prevent and treat dehydration.

Preparation of Oral rehydration solution – ORS/Regidron

- Wash your hands thoroughly with soap
- Use a 1 liter jar and clean spoon to prepare ORS;
- Empty the ORS packet into the jar and then fill the jar to half way with warm, boiled water;
- Stir the liquid with a spoon thoroughly until all the white powder disappears;
- Add warm, boiled water to fill the jar;
- Stir up the liquid once more and cover with a plastic lid.
- You can use prepared ORS within 24 hours.

Zinc treatment: you should give the zinc to infected people!

Zinc treatment is important for the following reasons:

- Zinc can greatly enhance the human, especially children **immunity** to the viruses;
- Zinc may make stop diarrhea problems
- **Zinc** may **prevent** future **diarrhea** episodes for up to three months

How to use Zinc: Take zinc as directed on the package- prepare medication on 1 spoon and take it 10 to 30 minutes after meals within 14 days. Give children under 6 months 10 mg (half tablet) and 20 mg (1 tab)to children above 6 months 1 x daily.

Give extra liquids to the infected people and continue to breastfeed children.

Generally **diarrhea** has 3 phases depending on the general status of the patient as well as hydration status; therefore treatment course varies depending on the hydration status.

- No dehydration;
- Dehydration
- Severe dehydration.

Treatment course varies depending on the hydration status.

Treatment course for rehydration is enclosed in the separate Annex to this Module.

Work in small groups (15 minutes): Divide participants into 3 small groups and have them work on the following exercises:

Exercise for Group 1: Role of radio, television and newspapers in prevention of water borne infectious diseases (list advantages and disadvantages).

Exercise for Group 2: Role of education materials including booklets, leaflets, posters and brochures in prevention of water borne infectious diseases (list advantages and disadvantages)

Exercise for Group 3: Importance of public awareness campaigns including seminars, discussions, debates, health kiosks in prevention of water borne infectious diseases.

Presentations by small groups and discussions.

Development of Scope of Work for the volunteers. (10 minutes)

Write down Scope of Work for volunteers on the flip charts and explain that it will include the following:

- Each volunteer will work with 50 assigned households.
- Specific activities for 1 month work with assigned households includes a) on-going visits to households, b) intensive work with students, c) filling questionnaires, d) conducting interviews, e) distribution of handouts on prevention of infectious water borne diseases among different targeted groups etc.
- Volunteers jointly with the Health Assistant, Health Project Officer, and trainers will establish *Health Data Kiosks (a self-service information bar)* in each Jamoat as per the approved schedule.
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USAID-Tajikistan Safe Drinking Water Project

TRAINING MODULE FOR HEALTH EDUCATORS: SAFE DRINKING WATER



Dushanbe 2010

Training Module for Health Workers: Safe Drinking Water

Purpose of the training module:

To provide capacity building support to the local health workers to enhance their skills on causes, prevention and treatment of water borne infectious diseases. Trained health workers will further raise public awareness about all above-mentioned issues through health education sessions and dissemination of the education materials.

This module covers key aspects about **safe drinking water**.

Session Objectives

- **Explain the relationship between the safe drinking water, hygiene and health;**
- **Raise local health workers awareness about water borne infectious diseases caused by failure to comply with sanitation standards;**
- **Raise local health workers awareness about water borne infectious diseases transmission.**

Welcoming (5 minutes):

Ask participants to assess their mood as per the 10-score rating sheet, using associations – for example some phenomenon of nature, (e.g. the sun shines brightly, a strong wind blows, a gentle breeze blows, etc.).

Brain-storming (5 minutes):

- *What water borne infectious diseases do you know?*
- *What are the causes of water borne infectious diseases?*

Untreated water, inadequate sanitation and **poor** hygienic conditions are the causes of about 80% of the waterborne infectious diseases, such as typhoid, diarrhea, hepatitis, and etc. There is a close relationship between the **safe drinking water**, hygiene and health. It is easy to prove that consumption of **safe drinking water** along with compliance with sanitation standards can reduce infant mortality rates by 55% and spread of diarrhea by 26%.

Group discussion (20 minutes). *Divide participants into 3 groups and ask them to pick one of the topics below for presentations:*

- **Relationship between water quality and waterborne infectious diseases occurrence;**
- **Causes of water borne infectious diseases.**

- **Prevention of water borne infectious diseases.**

(Participants can share some examples from their professional experience)

Safe drinking water indicators

Safe drinking water should not have specific taste, smell or color, but even if it complies with this rule, it doesn't mean that water is completely safe. Presence of some chemical substances and microbes in the water is determined after laboratory tests only.

Water and its role in our lives: water is used

- ✓ For drinking purposes
- ✓ For washing purposes (body and clothes)
- ✓ For cooking and cleaning fruits
- ✓ For irrigation of lands etc

Methods of drinking water storage

- **Water must be supplied from the safe drinking water sources such as well and covered spring.**
- Water source (well) should be separated from a contamination source – such as sewage water with concrete fence so to prevent contamination of the ground water;
- Concreted place of the water source should have a drainage system through which the sewage water will flow into the garden or irrigation ditch.
- The animals should not graze near the water source. They should have special place for water drinking.

The following are the most common sources of water supply in the communities:

- Springs
- Stand pipes
- Hand tube wells

A role-playing game (15 minutes)

Ask participants to prepare a role-playing game on the transmission/exposure of water borne infectious diseases and give time and guidelines to prepare that (5 minutes).

Discuss demonstrated role playing game and make conclusion.

Methods of water storage

Water must be stored out of reach of children and livestock in closed water-storage containers. If these containers do not have cover you can use a clean rag, cardboard or hard paper to prevent water pollution.

Water purification methods

- **Water collected from rivers and lakes should be settled down and boiled before use;**
- Water collected from polluted sources is needed to boil and filter (**boil water at least 15 minutes**);
- **You can also disinfect the water by the sun's rays (Method of solar water disinfection SODIS);**
- Boiled water can be used within 48 hours.

Safe method of taking out water from the water tank

- One should always use the following items while taking out water from the tank:
- Scoop
- Mug
- Small container with handle

Wrong method of taking out water from the water-storage container

- Never touch water with hands;
- Taking water with cup or glass is also wrong;
- The water becomes polluted when it is touched by the hands.
- Microbes penetrate into the human body through water and cause various diseases.

The following diseases are water-borne

- Hepatitis (Jaundice)
- Typhoid
- Diarrhea
- Fever

Work in small groups (15 minutes): Ask the group to split into 3 small groups.

Exercise for Group 1: Role of radio, television and newspapers in prevention of infectious water borne diseases (list advantages and disadvantages).

Exercise for Group 2: Role of education materials including booklets, leaflets, posters and brochures in prevention of infectious water borne diseases (list advantages and disadvantages).

Exercise for Group 3: Importance of public awareness campaigns including seminars, discussions, debates, health kiosks in prevention of water borne diseases.

Presentations and discussions.

Development of Scope of Work for the volunteers. (10 minutes)

Write down Scope of Work for volunteers on the flip charts and explain that it will include the following:

Each volunteer will work with 50 assigned households. Specific activities for 1 month work with assigned households includes a) on-going visits to households, b) intensive work with students, c) filling questionnaires, d) conducting interviews, e) distribution of handouts on prevention of infectious water borne diseases among different targeted groups etc.

Volunteers jointly with the Health Assistant, Health Project Officer, and trainers will establish *Health Data Kiosks (a self-service information bar)* in each Jamoat as per the approved schedule.

Volunteers will submit their progress reports to the Health Assistant on a monthly basis by 30th day of each month.

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USAID-Tajikistan Safe Drinking Water Project

TRAINING MODULE FOR HEALTH EDUCATORS: HYGIENE



Dushanbe 2010

Training Module for Health Workers: Hygiene

Purpose of the training module:

To provide capacity building support to the local health workers to enhance their skills on causes, prevention and treatment of water borne infectious diseases. Trained health workers will further raise public awareness about all above-mentioned issues through health education sessions and dissemination of the education materials.

This module covers key aspects about **hygiene**.

Objectives

- **Explain the relationship between the safe drinking water, hygiene and health;**
- **Raise local health workers awareness about water borne infectious diseases caused by failure to comply with sanitation standards;**
- **Raise local health workers awareness about water borne infectious diseases transmission.**

Welcoming (5 minutes):

Ask participants to assess their mood as per the 10-score rating sheet, using associations – for example some phenomenon of nature, (e.g. the sun shines brightly, a strong wind blows, a gentle breeze blows, etc.).

Brain-storming (5 minutes):

- *What is personal **hygiene**?*
- *What is public **hygiene**?*
- *What is **hygiene**?*

If water is the source of life then, the hygiene is the healthy lifestyle. Hygiene is not only limited to construction of latrines but it is a comprehensive attitude to **hygiene** and change in behavior as well. **Hygiene** is a set of the personal hygiene and sanitation practices including keeping source of water supply clean. **Hygiene** is a set of practices aimed at changing personal behavior, family behavior along with social behavior.

Group discussion (20 минут). *Divide participants into 3 groups and ask them to prepare presentations on the following topics:*

- **Link between infectious water borne diseases and water.**
- **Causes of infectious water borne diseases.**

(Participants can share some examples from their professional experience).

Personal hygiene

Why is it important?

- **Wash your hands** with soap regularly **after using the toilet and childcare, before meals, feeding a child, cooking and serving food. Compliance with all above mentioned basic rules of hygiene will enable to reduce the incidence of infectious waterborne diseases by 40%.**
- **Dirt and germs that gathers under the long fingernails, easily passes into the body through mouth while the ingestion of food or touching mouth with dirty hands.**
- Failure of personal **hygiene** may lead to different infectious skin diseases like scabies, eczema and ringworm.
- **Irregular brushing teeth may lead to tooth decay, bad breath and gum disease.**
- Walk barefoot in the streets makes it possible to **hookworm** to penetrate into the skin feet.
- Entering the toilet barefoot makes it possible to **hookworm** to penetrate into the skin feet as well.
- Dirty and not regularly combed hair can cause appearance of human lice that can transmit several diseases through the skin and blood e. Head lice **can** spread **easily** from one **person** to **another**.

How to maintain personal hygiene?

- **Wash your hands** with soap regularly **after using the toilet and childcare, before meals, feeding a child, cooking and serving food.**
- **Cut the nails regularly.**
- **Adults and children should brush teeth with toothpaste every day.**
- **Use soap while bathing every day and pay much attention to the cleanliness of the eyes and hair.**
- Regularly wash and comb your hair.
- Keep clothes clean.
- **You should always wear shoes before going outside to protect yourself from various parasites such as hookworm.**
- **Cover mouth and nose** with a tissue when **coughing** or **sneezing**.

A role-playing game (15 minutes)

Ask participants to prepare a role-playing game on the causes of infectious water borne diseases and their spread through consumption of untreated water and dirty fruits, and contact with infected person (5 minutes).

Discuss demonstrated role playing game and make conclusion.

Public hygiene

Why is it so important?

- **Bad smell and dirty pit latrines in the schools and households often is the indication of poor sanitation in the community. Latrines, therefore, attract insects** and make an excellent breeding ground for them. **Insects are one of the main vectors of infectious diseases.**
- Disposal of wastes and feces in the community surroundings and water sources leads to pollution of these areas and causes **unpleasant smell attracting flies and mosquitoes that are the major causes of infectious diseases outbreak.**
- The trashes thrown out on the streets and irrigation ditches make an excellent breeding ground for such insects as cockroaches, flies and rats which are the carriers of infectious diseases.
- Dirty ponds and puddles are the favorable environment for living and breeding of **mosquitoes** which are the cause of the spread of fever disease.
- Feces of animals and birds (dung of cow, duck and chicken) are the cause of tetanus.
- Favorable environment in the community is an indication that the population complies with sanitary and **hygienic** norms.

How to promote cleanliness of household and public places?

- Children above two years should not defecate in the public places and should be taught to defecate in the latrines only.
- **Household wastes should be disposed in the specific places for disposal.** Every *mahalla*, school, and household should have a separate site for the disposal of wastes.
- Keeping your neighborhood, irrigation ditches and ponds clean and free of feces, wastes, and waste water can prevent diseases.

Good hygiene and food safety practices in the households

Why is it so important?

- **If the house does not receive enough sunlight and is not well -ventilated then it becomes damp, dark and stuffy inside which is unsuitable for healthy lifestyle.**
- Irregular cleaning of household may be the cause of appearance of rats, flies and cockroaches.
- Consumption of contaminated water and **food can be the cause of many infectious diseases including diarrhea.**
- **Dirt and germs that gathers under the long fingernails, easily passes into the body through mouth while the ingestion of food or touching mouth with dirty hands.**
- **Food kept uncovered or leftover food can attract different insects and animals that can contaminate it.**
- Fruits and vegetables can be contaminated as many people defecate in gardens and fields where those are cultivated.
- **Consumption of contaminated food is one of the main causes of infectious diseases.**

How to ensure and promote compliance with good hygiene and food safety practices in the households?

- Ensure your house is well ventilated and receives enough sunlight. Sweep and clean your house on a daily basis;
- Dispose children's feces in the toilet only, or specially designated Pit latrine should have a lid to keep it covered to keep off flies and insects.
- Peel and wash fruits and vegetables thoroughly with clean water before eating.
- Avoid eating contaminated or leftover food.
- **Wash dishes immediately after eating the food so to prevent attraction of insects.**
- Food should be kept covered to protect it from insects and animals and inside the house preferably.
- **Wash your hands properly with soap before preparing food or feeding children.**
- Avoid eating food that was kept uncovered on the ground within some hours.

Work in small groups (15 minutes): Ask the group to split into 3 small groups.

Exercise for Group 1: Role of radio, television and newspapers in prevention of infectious water borne diseases (list advantages and disadvantages).

Exercise for Group 2: Role of education materials including booklets, leaflets, posters and brochures in prevention of infectious water borne diseases (list advantages and disadvantages).

Exercise for Group 3: Importance of public awareness campaigns including seminars, discussions, debates, health kiosks in prevention of water borne diseases.

Presentations and discussions

Development of Scope of Work for the volunteers. (10 minutes)

Write down Scope of Work for volunteers on the flip charts and explain that it will include the following:

Each volunteer will work with 50 assigned households. Specific activities for 1 month work with assigned households includes a) on-going visits to households, b) intensive work with students, c) filling questionnaires, d) conducting interviews, e) distribution of handouts on prevention of infectious water borne diseases among different targeted groups etc.

Volunteers jointly with the Health Assistant, Health Project Officer, and trainers will establish *Health Data Kiosks (a self-service information bar)* in each Jamoat as per the approved schedule.

Volunteers will submit their progress reports to the Health Assistant on a monthly basis by 30th day of each month.

Meetings with volunteers and monitoring visits in each jamoat will be conducted twice a month according to the approved schedule.

This module developed by the employees of the Branch of Save the Children Federation, Inc. in the Republic of Tajikistan contains information produced by this organization.

ANNEX 6

**TAJIKISTAN SAFE DRINKING WATER PROJECT
KAP, CHI AND POU FINAL REPORTS**



USAID
FROM THE AMERICAN PEOPLE

TAJIKISTAN

**TAJIKISTAN SAFE DRINKING WATER PROJECT
FINAL REPORT**

October FY2009 - September FY2012

**Knowledge, Attitudes and Practices Survey Report
Baseline > End line**

Dushanbe, Tajikistan

2012

The contents of this report are the sole responsibility of Save the Children Federation, Inc. and do not necessarily reflect the views of USAID or the United States Government.

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INTRODUCTION

1.0. Rationale

More than seven million people live in Tajikistan. According to the World Health Organization (WHO) only 58% of them have access to safe drinking water in rural areas and only 20% consume water from central water supply systems. Without proper treatment these sources often contain bacteria and other water pollutants. Over 40% of villagers must carry water from unimproved surface sources and store it in their homes, increasing the likelihood of contamination even when the water point access is safe. This lack of access to clean drinking water leads directly to high incidence of water borne diseases (WBDs), especially among children. According to the WHO, up to 60% of intestinal diseases in Tajikistan are water borne.

Providing a clean water supply will substantially reduce water-borne diseases, but improved hygiene practices and access to sanitation are also crucial for combating the main health threats to children under five, in particular diarrhea. Unsafe drinking water and inadequate sanitation infrastructure, combined with poor hygiene practices result in poor health conditions in general, and particularly threaten the health and well-being of children. According to WHO statistics 16% of deaths among children under five in Tajikistan are caused by diarrheal diseases which are directly attributable to unsafe water supply, poor hygiene practices and inadequate basic sanitation infrastructure.

To address these problems TSDWP worked with communities (both local government & citizens) to increase access to sustainable potable water supply to households in targeted rural communities by 1) improving community capacity; 2) supporting communities in building water supply infrastructure; 3) involving communities in the operation and management of this infrastructure; and 4) providing intensive training and promotion of improved health and hygiene.

With the Ministry of Health and other stakeholders, the Tajikistan Safe Drinking Water Project updated hygiene promotion materials and developed messages. During the three years of the project 579 Child-to-Child educators including 39 responsible teachers and 537 community health educators/volunteers including 49 local health workers were trained. Additionally, 64,971 schoolchildren participated in the health and hygiene education sessions conducted by TSDWP trained Child-to-Child educators and 56,809 adults in the TSDWP partner communities completed the trainings.

As a part of the health and hygiene promotion efforts four short animated video clips on key health and hygiene promotion were developed and used for the educational sessions as well as broadcasted through national TV Tojikiston and local TV station of Khatlon Oblast. According to documentation provided, an estimated 3,000,000 people have received this message to promote hygiene behavior change on multiple occasions. Additionally, the project builds capacity of local authorities, health workers, and health educators to promote and involve communities in hygiene promotion and behavior change activities. TSDWP Health Team distributed 9,000 copies of the health and hygiene education brochure on the topic of “5 Steps on Hand Washing with Soap” in the partner communities.

SURVEY SUMMARY

From KAP survey results (baseline and end line) it was found that good results have been achieved in the overall hygiene situation. In the baseline survey the situation was poor i.e. lack of safe water, poor sanitation facilities, poor hygiene practice etc.

At the end of the project, it was improved in overall hygiene and sanitation behaviour. Though some good improvements were noticed after the implementation of project, it should not be forgotten that it takes time to consolidate behaviour changes, so more follow up is necessary by community trainers/volunteers and health workers for further Improvement .

The baseline survey was conducted in the July 2010 and the end line survey was conducted between July 27 and August 6, 2012. In the period between the two surveys, a number of activities covering water, health and hygiene were implemented in the frame of the project.

At the completion of the project implementation the good improvements could be observed in water, health and hygiene conditions of the targeted communities.

In the 28 Water, Sanitation and Hygiene villages water and sanitation facilities were improved, together with activities aiming at raising awareness in hygiene and at improving the hygiene behavior and the people have a good knowledge and practices about health and hygiene issues.

Personal hygiene and hand washing practice have also improved. The rate of the diarrhea diseases decreased from 91% to 62% in households in the sample size. This happened due to different activities related to personal hygiene and hand washing including hand washing campaigns, Global Hand Washing Day celebrations, school competitions, health & hygiene education, community health campaigns, Child to Child education and distribution of IEC materials among targeted beneficiaries. These activities motivated people towards behaviour change and showed impressive changes

Though hand washing practice with soap and water is sufficient, reported hand washing at critical times, with water and soap has significantly increased from 90% to 100%. But the high price of soap may potentially negatively affect and discourage this key behaviour change. Despite the high rates of reported handwashing with soap and water, only 31% of school children reported that their schools provided soap for handwashing at the latrines and only 63% of household respondents reported that their household latrine has a place for handwashing with soap available. This suggests that the reported handwashing data may be a better reflection of knowledge more than practice.

Water sources for schools and households: Access to safe water is a major factor contributing to high disease burden in the rural communities. 82% of the children reported they had access to drinking water inside their school. For few percent (3%) of children the main source of drinking water was located outside their schools. Few children are still reliant on unsafe water from ditches, irrigation canals, and unprotected streams. About 42% of adults stated that their main water source was located inside their household, but another 48% used water from sources located outside their households. Finally, 16% of adults and their families use water from unprotected and untreated sources such as irrigation ditches.

Sanitation structures: Although 100% of homes reportedly have latrines (almost all pit latrines), few would be considered hygienic. Only 28% of latrines have covers over latrine holes, and only one 31% latrines had ash or sand placed in the latrine to keep away flies. The program significantly increased the number of latrines (from 24% to 74%) which have had a place for hand washing close by and only a most homes (8% to 63%) had soap available near latrines. In spite of this reality, there is a significant increasing on key hygiene behaviors among adults and children in the partner communities: 79% of citizens and 93% of children stated that they wash their hands with soap after using the latrine. These

responses clearly indicate that citizens and children improve their knowledge and practices on key hygiene practices and know that hand washing with soap is a good hygiene practice and do it on a regular daily basis.

Health knowledge: Adults and children reported that they knew about the symptoms of WBDs, have a good knowledge and skills about specific symptoms and ways to prevent the diseases and there is a significant improvements their knowledge about WBDs: 95% (baseline data was 74%) of adults and children could list more than 2 ways of preventing diarrhea, and the remaining respondents interviewed could cite only 1 or 2 ways. Knowledge of hand washing as a way to prevent diarrhea and other WBDs was relatively high, as was the awareness that washing hands with soap after defecation and before eating was important. Knowledge of how to prepare ORS was significantly improved, and therefore 87% (baseline data was 9%) respondents reported that they would use ORS if they had diarrhea.

Health and care-seeking practices: Although 100% of respondents reported washing their hands daily, the reported practice of hand washing with soap before eating, after disposing feces, after animal handling and after visiting the market and school was consistently very high. 93% of children indicated that they wash their hand with soap after the using latrine and 97% mentioned that they wash their hands with soap before eating meals. Although most adults and children reported that they would seek advice from a doctor if they experienced diarrhea, both adults and children have a good knowledge about prevention, home care and danger signs of WBDs required seeking treatment/advice, and serious danger signs that require immediate care seeking, especially in young children.

This KAP survey was conducted in order to compare its results with the results of the baseline survey, to identify whether the hygiene promotion activities conducted in the frame of the TSDPW funded project had been effective.

Summary of Final Survey Results

SCHOOL CHILDREN: Baseline Survey vs. Final Survey 180 respondents = 0.5% of target population		
Key Indicators	Baseline Data	Final Data
Percent of children who know +2 dangers signs of diarrhea	24% (43)	99% (178)
Percent of children who can list +2 prevention ways of diarrhea	9% (16)	98% (177)
Percent of children who wash their hands with soap in critical times	5% (9)	50% (90)
Percent of children who wash their hands with soap after using latrines	60%(109)	93% (168)
Percent of children who can prepare correctly ORS for treatment diarrhea	3%(6)	86% (135)
Percent of children whom family members had diarrhea last month	83%(149)	52%(93)
Percent of children who know what diseases can be contracted unsafe water.	n/a	98% (176)

ADULTS: Baseline Survey vs. Final Survey 180 respondents = 0.5% of target population		
Key Indicators	Baseline Data	Final Data
Percent of citizens who know +2 dangers signs of diarrhea	52% (94)	178 (99%)
Percent of citizens who can list +2 prevention ways of diarrhea	17% (31)	95% (171)
Percent of citizens who wash their hands with soap in critical times	8% (14)	41% (74)
Percent of citizens who wash their hands after using latrines	65%(117)	79%(142)
Percent of citizens who can prepare correctly ORS for treatment diarrhea	12%(21)	92%(152)
Percent of citizens whom family members had diarrhea last month	91%(169)	62%(111)
Percent of citizens who know what are diseases can be contracted unsafe water.	n/a	178(99%)

PROJECT DESCRIPTION

2.1. Main Objective:

To improve the health of rural citizens in Tajikistan by improving the long-term technical and financial sustainability of potable water supply services, and improving hygiene and health behaviours.

2.2. Specific Objectives:

- To increase access to a sustainable, safe drinking water supply in rural Tajikistan through support for improvements in local government capacity, supply infrastructure, and community involvement in the operation and management of this infrastructure.
- To build capacity among local health officials, community leaders, and the private sector to promote key improved hygiene behaviors and associated products, with a focus on the geographic areas targeted under Objective 1.

OBJECTIVE OF KAP SURVEY

From July 27 to August 6, 2012, Health Staff of TSDWP conducted a final evaluation survey in TSDWP target communities in Hisor, Tursunzoda, Shahri Nav, Rudaki, Fayzobod, Khuroson, Sraband, Vaksh and Bokhtar Raions. The final survey collected data from 180 children and 180 adults in the target communities.

The aim of the KAP survey was to collect final and monitoring data and compare it with baseline data in order to assess the effectiveness and impact of the water, sanitation, health & hygiene promotion activities in the frame of TSDW project. The KAP survey collected data on the following topics:

- Health/hygiene status of community members

- Health related knowledge & practices among community members and school-children.
- Incidence of communicable disease due to unhygienic practice
- Water and sanitation situation in schools in the TSDWP partner communities.

In addition to providing final data, the KAP survey provides information on the health and hygiene needs of school children and community members in the targeted communities. In general, the TSDWP KAP Survey was designed to assess behavioral factors such as: 1) knowledge of various important aspects of health & hygiene; 2) self-reported use of health and hygiene measures . Separate KAP surveys were conducted for citizens and for schoolchildren. As part of an integrated TSDWP data collection and analysis process the information gathered and analyzed during the KAP surveys is complementing the Community Health Index survey. This survey will enable the project to compare progress (or lack thereof) in behavioral change across the life of the project and in all of the 29 targeted communities.

METHODS AND SAMPLING

1.0 The Steps Involved

The following methodology/ processes were used to complete this assignment:

Step 1: Team Formation

Step 2: Planning meetings

Step 3: Review existing survey questionnaire

Step 4: Identification of Respondents

Step 5: Pre-testing, mock interviews and assessment there-of

Step 6: Finalization of questionnaire

Step 7: Conduct real interviews and completion of questionnaires

Step 8: Team Reflection Meetings

Step 9: Data coding and selection of variables of analysis

Step 10: Data entry

Step 11: Analysis of data

Step 12: Preparation of report were held to discuss and agree on the significant aspects of the KAP

1.1. Assessment Tools

The tools used to assess progress on the indicators were the same as those used to establish the values of the indicators at the Baseline survey.

The survey questionnaires included 26 questions for citizens and 25 questions for children related to hygiene practices, awareness of water borne diseases and household sanitation facilities. The questionnaires were reviewed and updated by Gulchehra Boboeva in close cooperation with TSDWP Chief of Party, Duane Beard and were field tested prior to the survey. (Refer to Annex 1 for questionnaire for children and Annex 2 for questionnaire for citizens). Dr. Gulchehra Boboeva, TSDWP Health Team Manager conducted training on survey methodology for sampling selection for the survey team that has been used during TSDWP Baseline Evaluation Survey.

Four groups organized for survey and each group consisted of 2 persons, one person was responsible for asking questions and another person was recorded. Also each group selected a supervisor who was responsible for properly marking questionnaires and submission to Data Entry. Data entry and analysis were assisted by Sharofiddin Mahmudov M&E Officer from Save the Children Dushanbe Office.

The surveys were conducted between July 27 and August 6, 2012 by four groups of 2 people in twenty eight randomly selected TSDWP partner-communities (Table 1). Two streets were randomly selected after getting permission from the chief of the mahalla and school director in each target village.

Following street selection, 20 school children (10 boys and 10 girls typically age 9 to 18 and 20 adults (10 males and 10 females) were randomly selected in each targeted raions. In total, 180 school children and 180 adults from twenty eight target communities of the nine (9) raions were individually interviewed (tables 1 and 2).

Sharofiddin Mahmudov, the TSDWP Data Entry and Monitoring Specialist, assisted with data entry and analyses of the final KAP survey data.

SUMMARY OF FINDINGS

Part I. Knowledge, Attitudes and Practices among Adults

Question 1: Do you know what is diarrhea?

Figure 1:



Table 3		
Citizens response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: From 180 interviewed citizens 100% (180 respondents) reported that they knew what diarrhea was and 0% (0 respondents) did

not know what diarrhea was.

Question 2: If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?

Figure 2

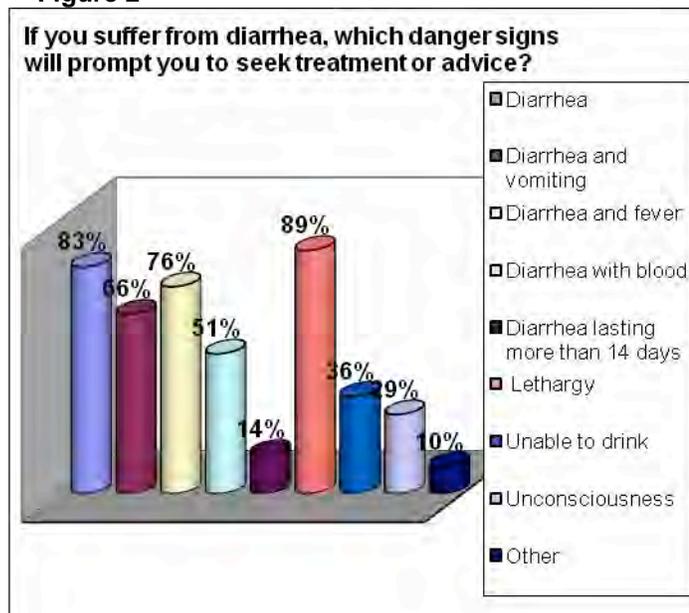


Table 4 If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?		
respondents reported yes		
Citizens response		
Type	n	%
a) Diarrhea	149	83%
b) Diarrhea and vomiting	118	66%
c) Diarrhea and fever	136	76%
d) Diarrhea with blood	92	51%
e) Diarrhea lasting more than 14 days	26	14%
f) Lethargy	160	89%
g) Unable to drink	64	36%
h) Unconsciousness	52	29%
i) Other	18	10%

Results: The survey found that 83% of adults questioned say they would visit the doctor if they have diarrhea. 67% said they would visit the doctor if they suffered from diarrhea and vomiting. 76% indicated that they would visit the doctor if they had diarrhea and fever, 89% lethargy, 51% diarrhea with blood and 99% of respondents indicated more than 2 danger signs, which would prompt them to seek treatment.

Question 3: Do you know how to prevent diarrhea?

Table 5: Do you know how to prevent diarrhea?

Citizens response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%



Results: From the 180 respondents interviewed, 100% said they knew how to prevent diarrhea.

Question 4: Could you list ways to prevent diarrhea?

Figure 4

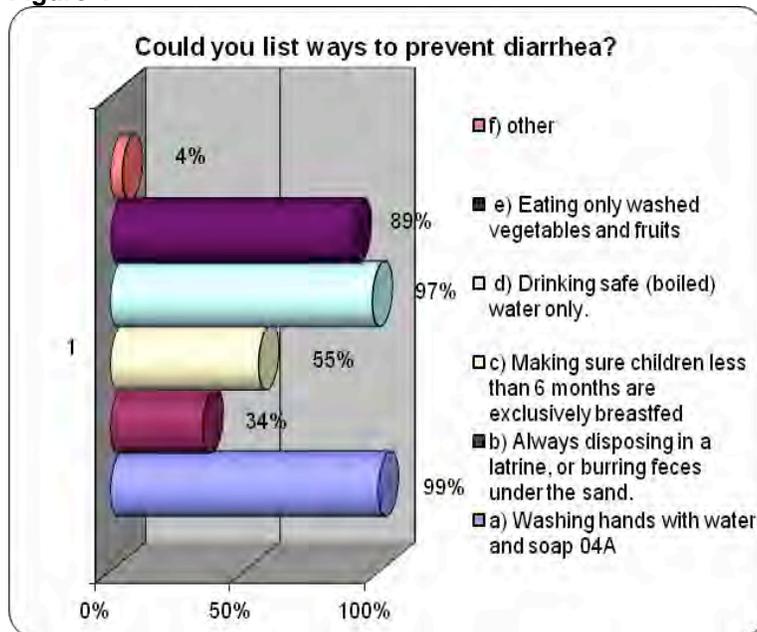


Table 6 Could you list ways to prevent diarrhea.

respondents reported yes		
Citizens response		
Type	n	%
a) Washing hands with water and soap 04A	179	99,40%
b) Always disposing in a latrine, or burring feces under the sand.	62	34,40%
c) Making sure children less than 6 months are exclusively breastfed	99	55,00%
d) Drinking safe (boiled) water only.	175	97,20%
e) Eating only washed vegetables and fruits	161	89,40%
f) other	8	4,40%

Results: The most commonly cited methods for preventing diarrhea were hand washing (99,4%), drinking boiled or bottled water (97%) and eating only washed vegetables (89%.) The results indicate more than 100% as a result of multiple responses from respondents, 95% of respondents could list more than 2 ways of preventing diarrhea.

Question 5: Did you or any of your family members have diarrhea in the last month?
Figure 5

Table 7 Did you or any of your family members have diarrhea in the last month?		
Citizens response		
	n	%
Yes	111	62%
No	69	38%
Total	180	100%



Results: 62% (111 respondents) responded that they or someone in their family had suffered from diarrhea in the past month. Only 38% (69 respondents) indicated that no one in their family, including themselves, had suffered from diarrhea in the last month.

Question 6: What should you do if you or your child has diarrhea?

Figure 6

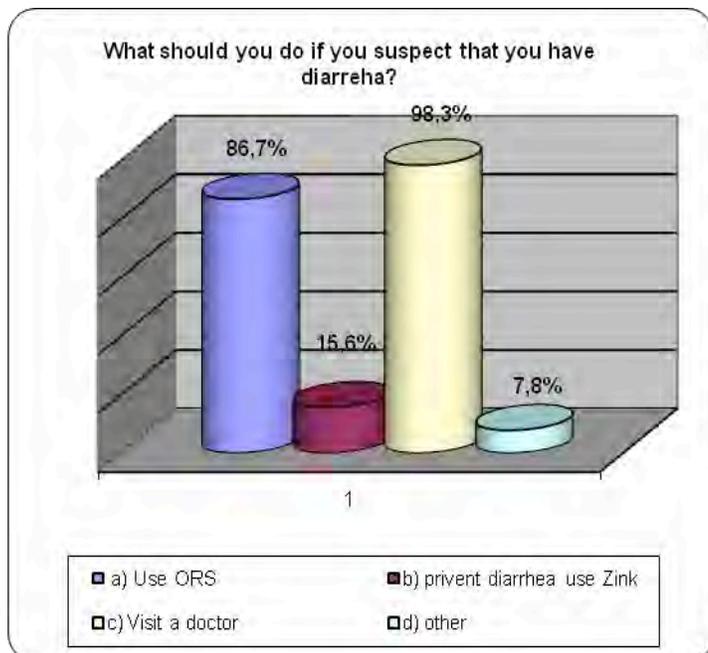


Table 8 What should you do if you or your child has diarrhea?		
respondents reported yes		
Citizens response		
Type	n	%
a) Use ORS	156	87%
b) Treat diarrhea using Zinc	28	16%
c) Visit a doctor	177	98%
d) Other	14	8%

Results: When asked what should you do when you have diarrhea, 98% of adults responded that they should visit a doctor, 8% indicated that they should use other sources of treatment, 87% said they should use ORS and 16% of respondents reported 10

they should treat diarrhea by using Zinc.

Question 7: Can you prepare Oral Rehydration Solution (ORS)?

Figure 7

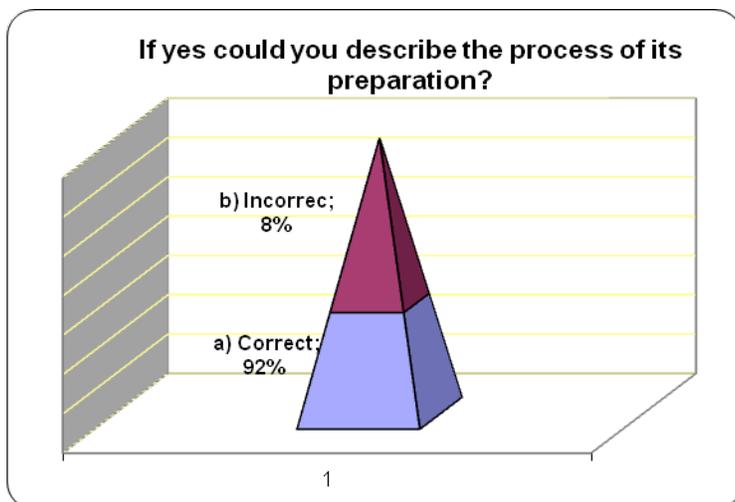


Citizens response		
	n	%
Yes	166	92%
No	14	8%
Total	180	100%

Results: 92% of respondents reported that they could prepare ORS and 8% said they could not.

Question 8: If yes, could you describe the process of its preparation?

Figure 8



respondents reported yes		
Citizens response		
Type	n	%
a) Correct	152	92%
b) Incorrect	14	8%
c) Other (don't know)	0	0%
Total	180	100%

Results: 92% of respondents reported the correct process for preparing ORS, while 8% of

respondents gave an incorrect method of ORS preparation.

Question 9: Do you know what hepatitis is?

Figure 9

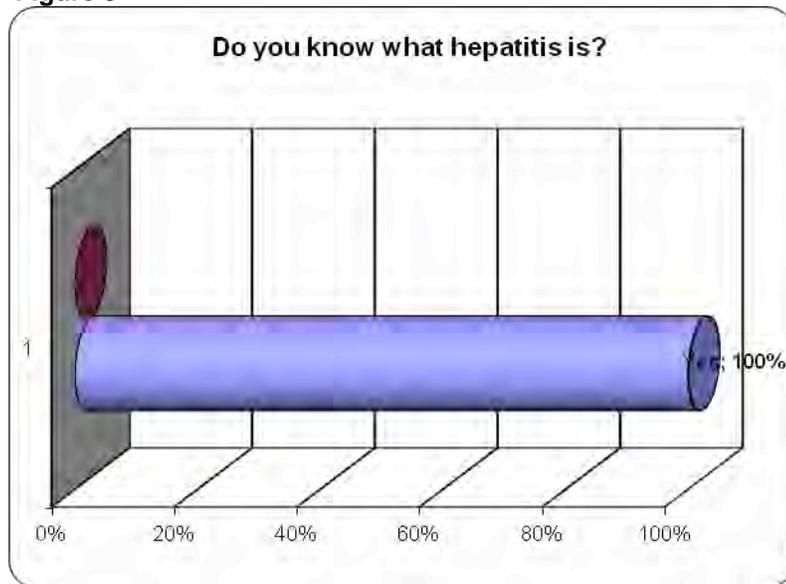


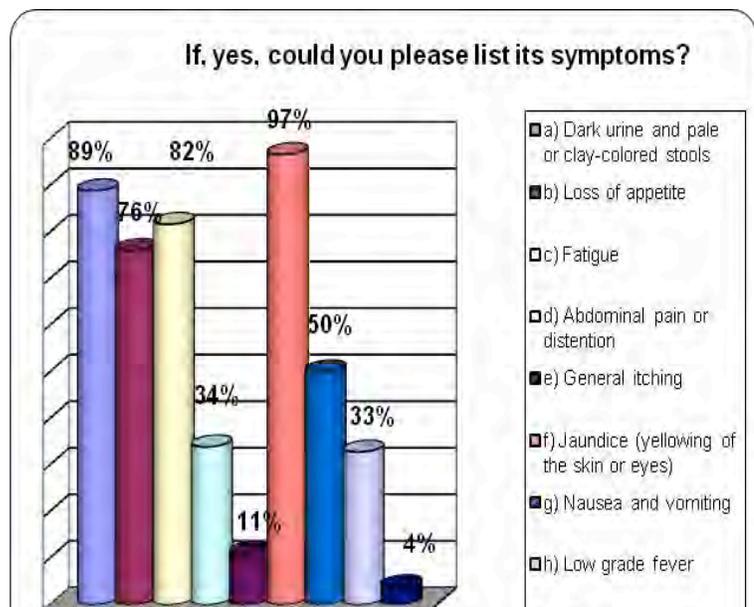
Table 11 Do you know what hepatitis is?		
Citizens response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: 100% of respondents stated that they knew what hepatitis was.

Question 10: If, yes, could you please list its symptoms?

Figure 10

Table 12 If, yes, could you please list its symptoms?		
respondents reported yes		
Citizens response		
Type	n	%
a) Dark urine and pale or clay-colored stools	160	89%
b) Loss of appetite	137	76%
c) Fatigue	147	82%
d) Abdominal pain or distention	61	34%
e) General itching	20	11%



f) Jaundice (yellowing of the skin or eyes)	174	97%
g) Nausea and vomiting	90	50%
h) Low grade fever	59	33%
i) other	7	4%

Results: Of those who claimed to know what hepatitis was, 97% cited jaundice (yellowing of the skin and eyes) as a symptom of hepatitis, 89% stated dark urine and pale or clay-colored stool as a symptom, 82% mentioned fatigue, 76% cited loss of appetite, 34% stated abdominal pain or distention, 4% cited nausea and vomiting and 33% of respondents identified general itching as a symptom.

Question 11: Do you know how to prevent hepatitis? (See Table 13 and Figure 11)

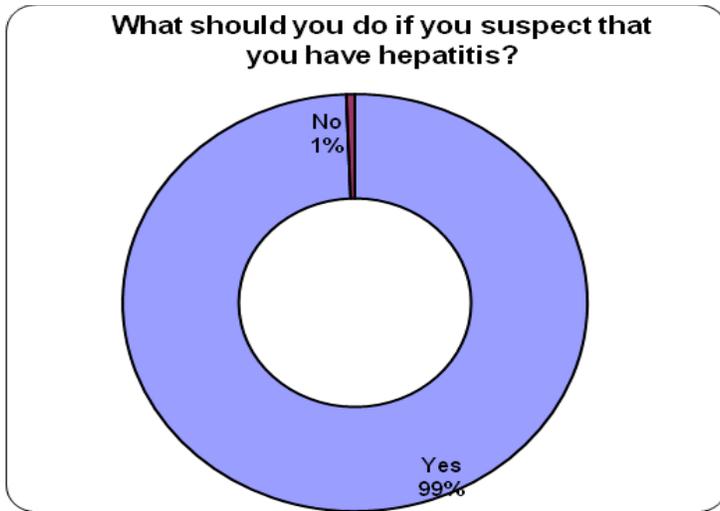


Figure 11

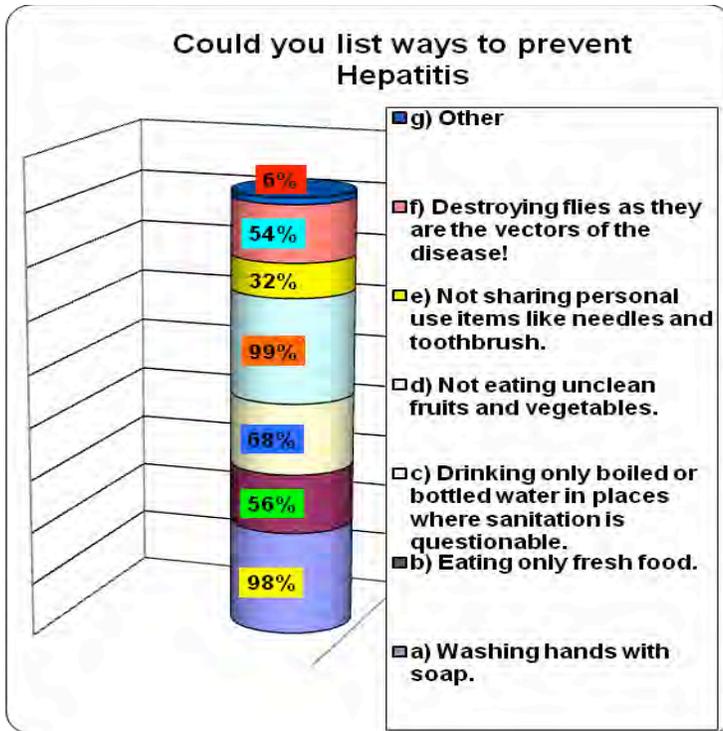
Table 13 Do you know how to prevent hepatitis?		
Citizens response		
	n	%
Yes	179	99%
No	1	1%
Total	180	100%

Results: 70% of respondents said they knew how to prevent hepatitis, and 30% indicated that they did not know how to prevent hepatitis.

Question 12: Could you list ways to prevent Hepatitis?

Figure 12

Table 14 Could you list ways to prevent Hepatitis		
respondents reported yes		
Citizens response		
Type	n	%
a) Washing hands with soap.	175	98%
b) Eating only fresh food.	101	56%
c) Drinking only boiled or bottled water in places where sanitation is questionable.	121	68%
d) Not eating unclean fruits and vegetables.	177	99%
e) Not sharing personal use items like needles and toothbrush.	58	32%



f) Destroying flies as they are the vectors of the disease!	96	54%
g) Other	11	6%

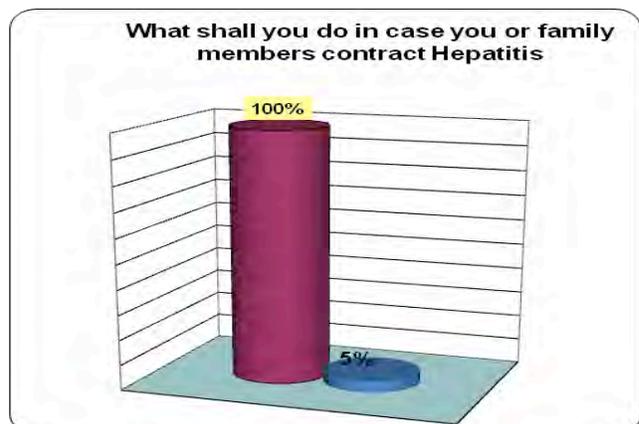
Results: The most commonly cited methods for preventing hepatitis were hand washing (98%), drinking boiled or bottled water (68%), not eating unclean fruits and vegetables (99%) and eating only fresh food (56%). The results indicate more than 100% due to multiple responses from respondents. Only 98% of respondents could list more than 2 ways of preventing hepatitis.

Question 13: What shall you do in case if you or your family members contract Hepatitis?

Figure 13

Table 15 What shall you do in case if you or your family members contract Hepatitis?

Citizens response		
	n	%
Visit a doctor	179	100%
Other	8	5%



Results: When asked what to do if you have Hepatitis, 100% of adults mentioned that they would visit a doctor and 5% had visit to doctor and other responses.

Question 14: Do know what is Typhoid?

Figure 14

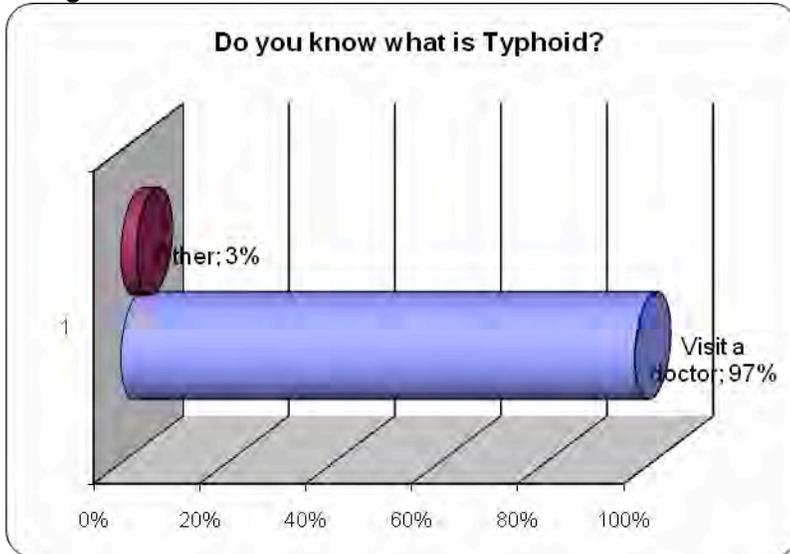
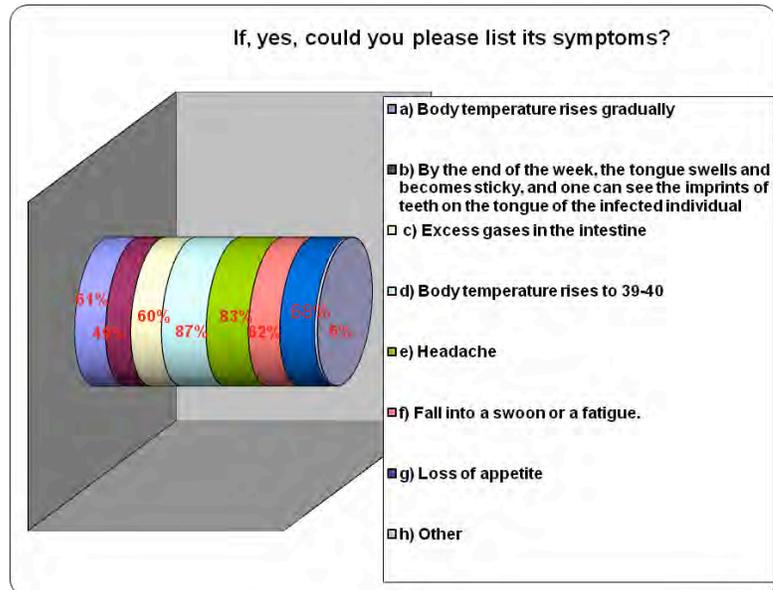


Table 16 Do you know what is Typhoid?		
Citizens response		
	n	%
Yes	174	96,7%
No	6	3,3%
Total	180	100%

Results: From 180 interviewed citizens, 97% reported that they knew what typhoid was and 3% said they did not know what typhoid was.

Question 15: If yes, could you please list its symptoms?
Figure 15

Table 17 If, yes, could you please list its symptoms?		
respondents reported yes		
Citizens response		
	n	%
Total		
a) Body temperature rises gradually	106	60,9%
b) By the end of the week, the tongue swells and becomes sticky, and one can see the imprints of teeth on the tongue of the infected individual	85	48,9%
c) Excess gases in the intestine	105	60,3%
d) Body temperature rises to 39-40	152	87,4%
e) Headache	144	82,8%
f) Fall into a swoon or a fatigue.	107	61,5%
g) Loss of appetite	118	67,8%
h) Other	10	5,7%



Results: 61% respondents cited body temperature rises gradually, 83% stated headache, 33% mentioned loss of appetite, 60% cited excess gases in the intestine, 87% mentioned body temperature rises to 39-40, 62% cited fall into a swoon or a fatigue, and 6% listed other general symptoms.

Question 16: Do you know how to prevent typhoid?

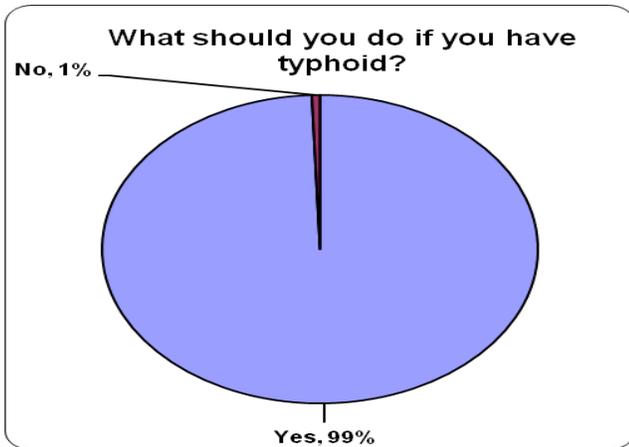


Figure 16

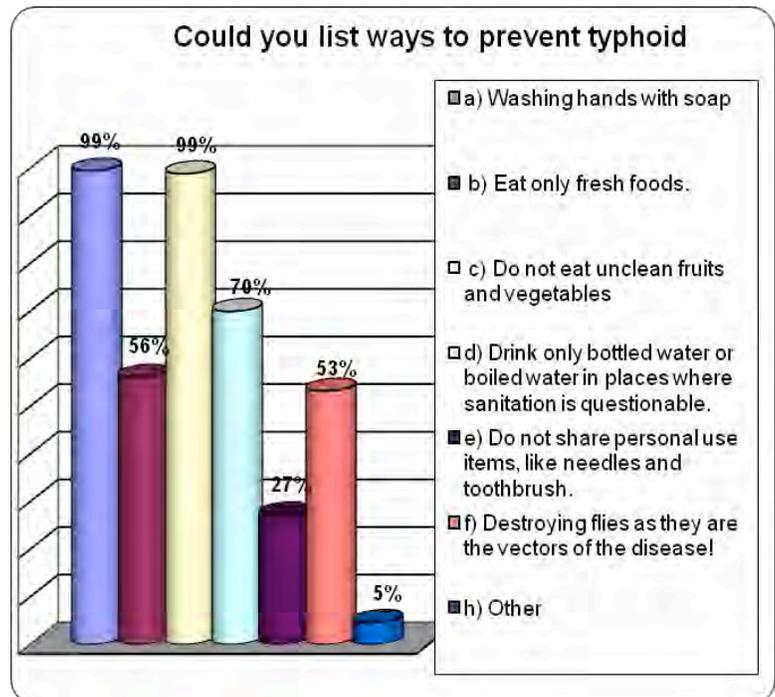
Table 18 Do you know how to prevent typhoid?		
respondents reported yes		
Citizens response		
	n	%
Yes	173	99%
No	1	1%
Total	174	100%

Results: From 174 respondents interviewed, 99% reported they knew how to prevent typhoid and 1% indicated that they did not know how preventing of typhoid.

Question 17: Could you list ways to prevent typhoid?

Table 19 Could you list ways to prevent typhoid?		
respondents reported yes		
Citizens response		
Type	n	%
a) Washing hands with soap	172	99%
b) Eat only fresh foods.	97	56%
c) Drink only bottled water or boiled water in places where sanitation is questionable.	171	99%
d) Do not eat unclean fruits and vegetables	121	70%
e) Do not share personal use items, like needles and toothbrush.	47	27%
f) Destroying flies as they are the vectors of the disease!	92	53%
h) Other	8	5%

Figure 17



Results: The most commonly cited methods for preventing typhoid were hand washing (99%), drinking boiled or bottled water (99%), eating fresh foods (56%) and not eating unclean fruits and vegetables (70%.) 93% of respondents could list more than 2 ways of preventing typhoid.

Question 18: What should you do when you have typhoid?

Figure 18

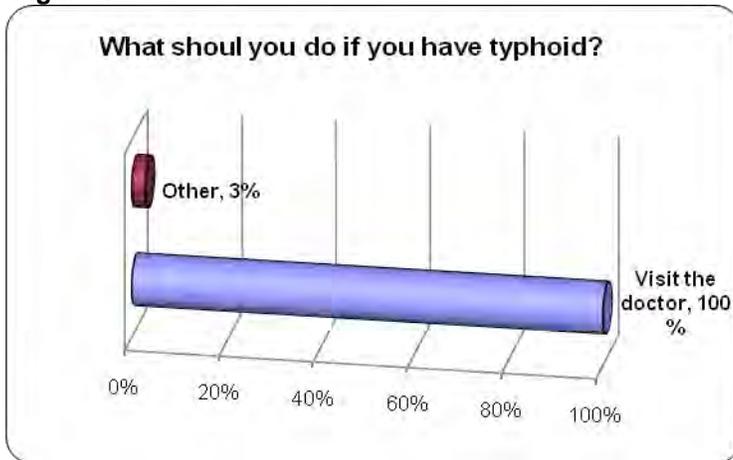


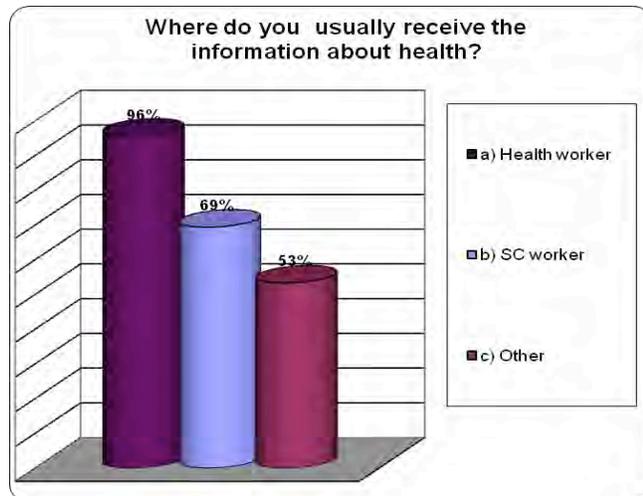
Table 20 What should you do when you have typhoid?		
respondents reported yes		
Citizens response		
Type	n	%
Visit the doctor	173	100%
Other	5	3%

Results: When asked what to do when you have typhoid, 100% of citizens responded that they would visit a doctor, 3% indicated that they would use other sources of treatment.

Question 18.1: Where do you usually receive the information about health?

Figure 18.1

Table 18.1. Where do you usually receive the information about health?		
respondents reported yes		
Type	Citizen	
	n	%
a) Health worker	172	96%
b) SC worker	125	69%
c) Other	96	53%



Results: When asked where do you usually receive the information about health, 96% of citizens responded that they received from health worker, 69% of citizens responded that they received from SC worker, 53% indicated that they received from other sources.

Question 19: Do you wash your hands every day?

Figure 19

Table 21 Do you wash your hands every day?		
Citizens response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: Predictably, all 180 respondents stated that they washed their hands every day. Most citizens know that hand washing is promoted, so a positive response is expected.



Question 22: Do you use soap every day while hand washing?

Figure 20

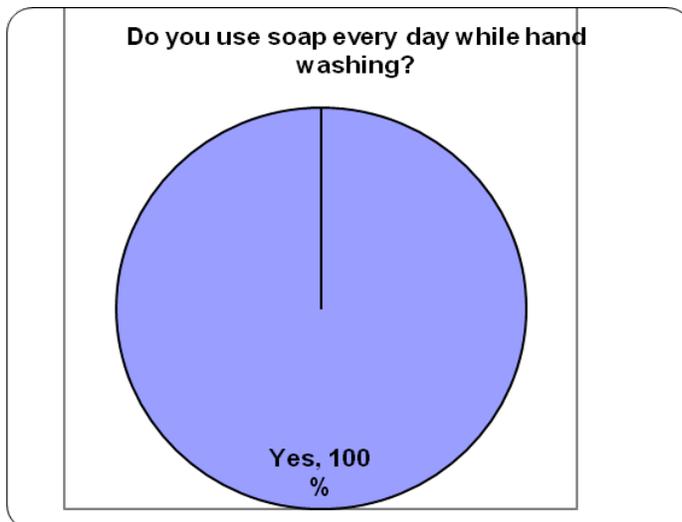


Table 22 Do you use soap every day while hand washing?		
Citizens response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: From the 180 respondents interviewed, 100% stated that they wash their hands with soap every day. All citizens know that hand washing with soap is promoted and do it in their daily practices.

Question 21: When do you usually wash your hands with soap?

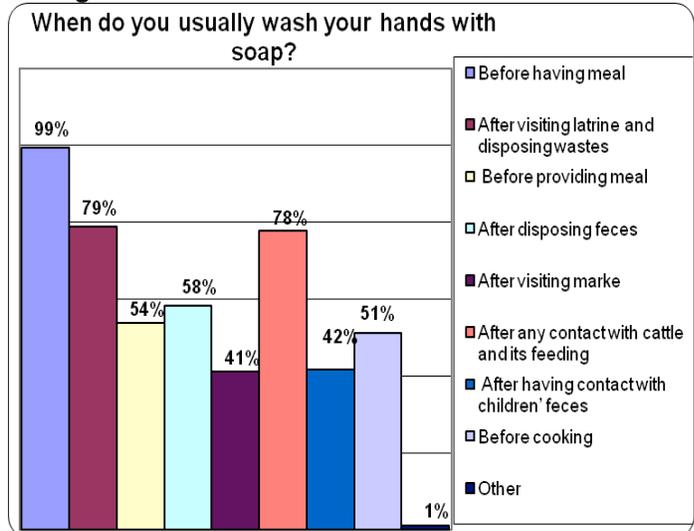
Table 23 When do you usually wash your hands with soap?

respondents reported yes

Citizens response

Type	n	%
Before having meal	179	99%
After visiting latrine and disposing wastes	142	79%
Before providing meal	97	54%
After disposing feces	105	58%
After visiting marke	74	41%
After any contact with cattle and its feeding	140	78%
After having contact with children' feces	75	42%
Before cooking	92	51%
Other	2	1%

Figure 21



Results: 99% of respondents stated that they usually wash their hands with soap before having meal, 79% -after visiting latrine and disposing wastes, 78% -after any contact with cattle and its feeding, 51% -before cooking, 58% after disposing feces, 54% before providing meal, and 42% after having contact with children’s feces.

Question 22: What is the source of drinking water for your household?

Figure22

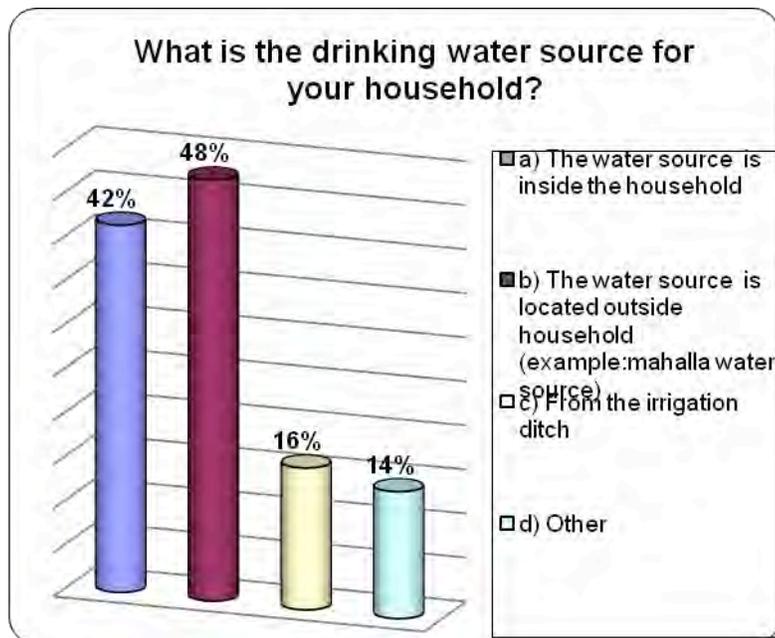


Table 24 What is the drinking water source for your household?

respondents reported yes

Citizens response

Type	n	%
a) The water source is inside the household	75	42%
b) The water source is located outside household (example: mahalla water source)	86	48%
c) From an irrigation ditch	29	16%
d) Other	26	14%

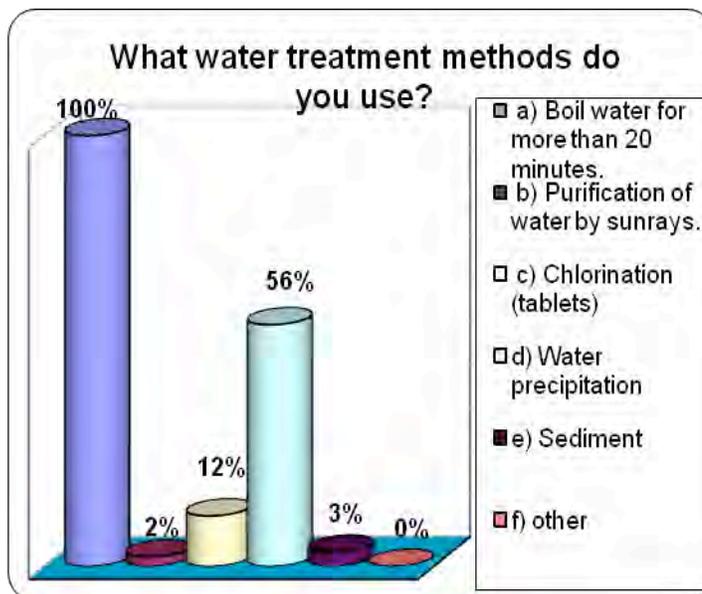
Results: From the 180 interviewed citizens, 42% respondents stated that the water source is located inside their household, 48% mentioned that used water from sources located from outside their households, 16% from the irrigation ditch and 14% from other sources.

Question 23: What water treatment methods do you use?

Table 25 What water treatment methods do you use?		
respondents reported yes		
Citizens response		
Type	n	%
a) Boil water for more than 20 minutes	146	81%
b) Purification of water by sunrays	0	0%
c) Chlorination (tablets)	8	4%
d) Water precipitation	6	3%
e) Sediment	41	23%
f) other	5	3%

Results: The most commonly cited methods for water treatment included boiling water for more than 20 minutes - 81%, sediment -23%, chlorination - 4%, water precipitation - 3%. Total number of respondents was 180.

Figure23

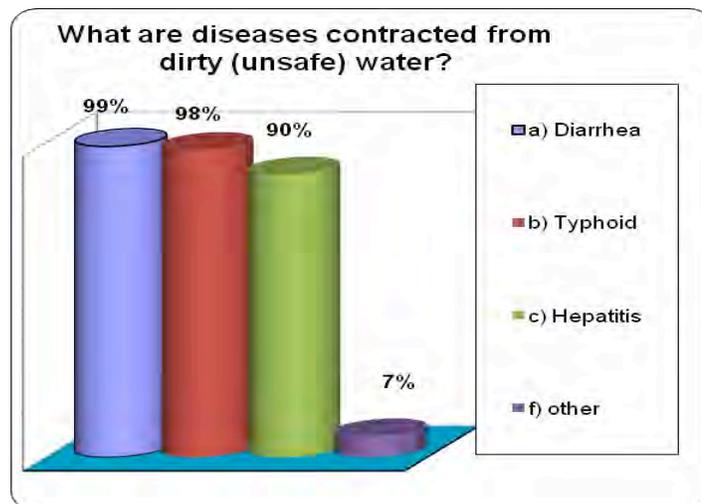


Question 23.1: What are diseases contracted from dirty (unsafe) water?

Table 23.1. What are diseases contracted from dirty (unsafe) water?		
respondents reported yes		
Type	Citizen	
	n	%
a) Diarrhea	178	99%
b) Typhoid	176	98%
c) Hepatitis	162	90%
f) other	12	7%

Results: When asked what are diseases contracted from dirty (unsafe) water, 99% of citizens answered Diarrhea, 98% of citizens answered Typhoid, 90% of citizens answered Hepatitis, 7% indicated as other.

Figure 23.1



Question 24: What kind of latrine is available in this household?

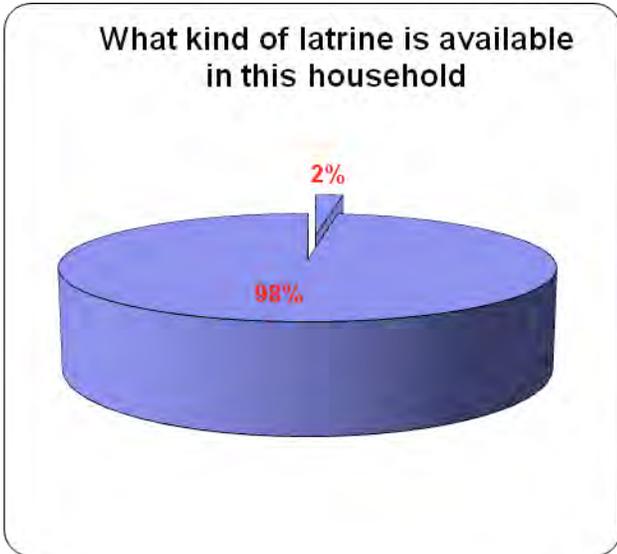


Figure 24

Table 26 What kind of Latrine is available in this household?

respondents reported yes

Citizens response		
Type	n	%
a) Flush Latrine	4	2%
b) Pit Latrine	176	98%
c) Other	0	0%
d) There is no latrine	0	0%
Total	180	100%

Results: when asked about type of latrine available and used -from the total of 180 respondents, 98% mentioned pit latrines and 2% respondents reported having a flush latrine.

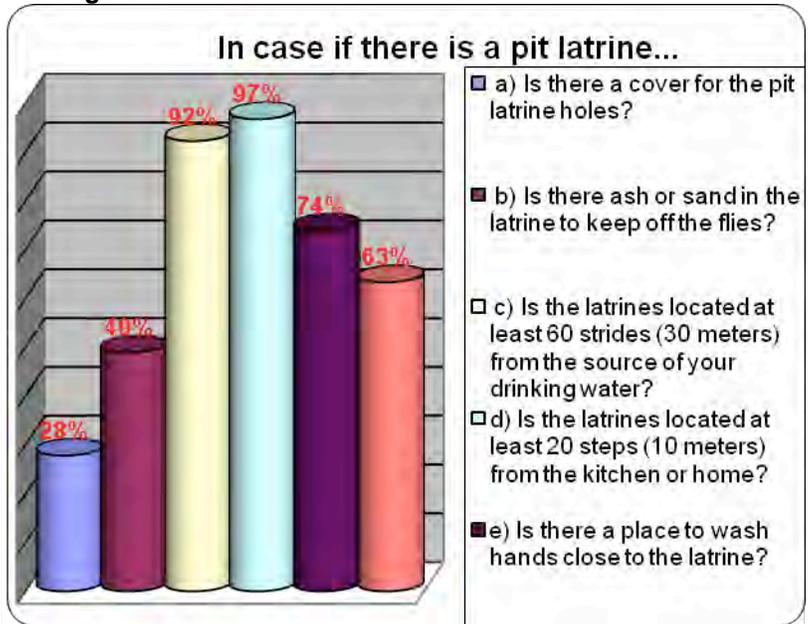
Question 25: In case if there is a pit latrine...

Figure 25

Table 27 In case if there is a pit latrine...

respondents reported yes

Citizens response		
Type	n	%
a) Is there a cover for the pit latrine holes?	50	28%
b) Is there ash or sand in the latrine to keep off the flies?	88	49%
c) Is the latrine located at least 60 strides (30 meters) from the source of your drinking water?	166	92%
d) Is the latrine located at least 20 steps (10 meters) from the kitchen or home?	174	97%
e) Is there a place to wash hands close to the latrine?	133	74%
f) Is there soap?	114	63%



Results: Of 170 respondents, 92% mentioned that their household's latrine was located at least 20 steps (10 meters) from their kitchen and home, and 86% that the latrine was located at least 60 strides(30 meters) from the source of drinking water. Only

28% of respondents indicated that they had a place to wash hands close to the latrine and 8% of households had soap located close to the latrine to wash hands.

Question 26: If case if there is not latrine-N/A (100% of respondents reported having a latrine).

Question 27: What place do you use for defecating/NA (all respondents reported having a latrine for defecation.)

Part II. Knowledge, Attitudes and Practices among School Children

Question 1: Do you know what is diarrhea?

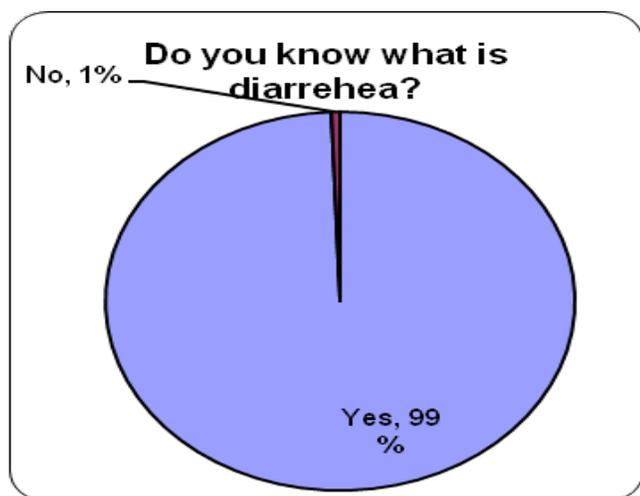


Figure 1

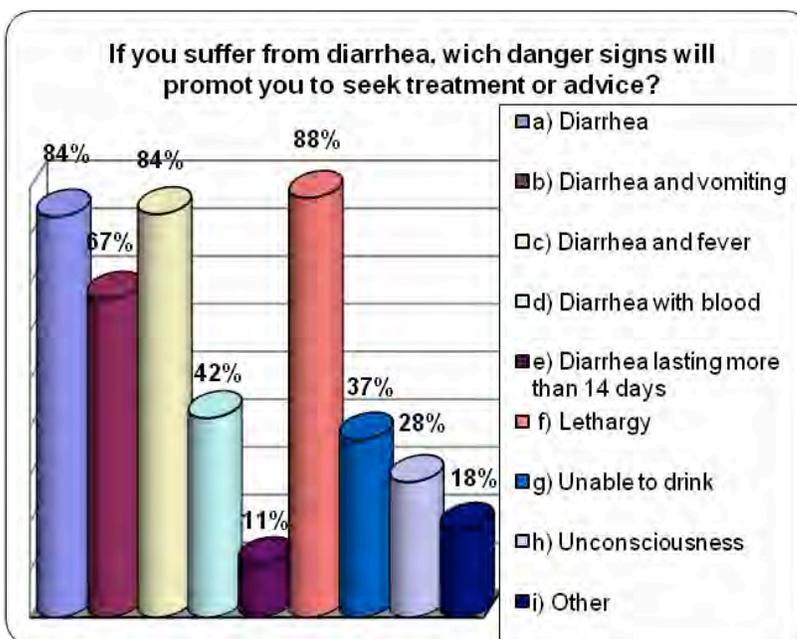
Table 1 Do you know what is diarrhea?		
Children response		
	n	%
Yes	179	99%
No	1	1%
Total	180	100%

Results: From 180 interviewed children 99% reported knowing what diarrhea was and 1% said they did not know what diarrhea was.

Question 2: If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?

Figure 2

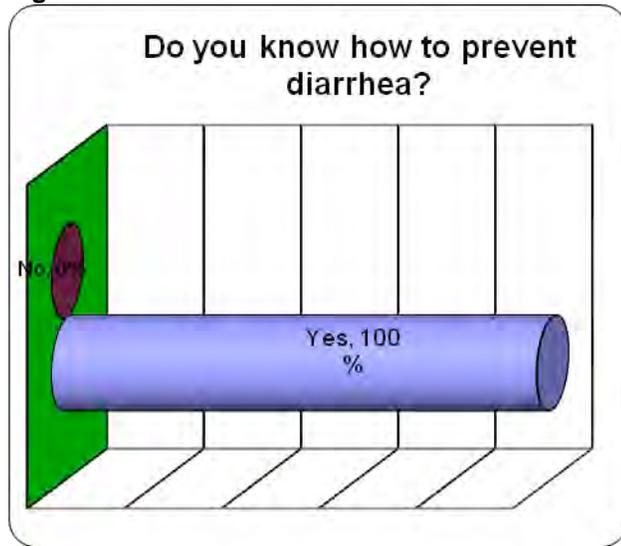
Table 2 If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?		
respondents reported yes		
Children response		
Type	n	%
a) Diarrhea	151	84%
b) Diarrhea and vomiting	120	67%
c) Diarrhea and fever	152	84%
d) Diarrhea with blood	75	42%
e) Diarrhea lasting more than 14 days	20	11%
f) Lethargy	158	88%
g) Unable to drink	67	37%
h) Unconsciousness	51	28%
i) Other	33	18%



Results: 84% of children reported that they would visit the doctor if they had diarrhea. Another 67% reported that they would visit the doctor when they suffered from diarrhea and vomiting. About 84% of respondents indicated that they would visit the doctor if they had diarrhea and fever, 88% lethargy. The results total more than 100% due to the possibility of multiple responses. 97% children indicated more than 2 danger signs which would prompt them to seek treatment or advice.

Question 3: Do you know how to prevent diarrhea?

Figure 3



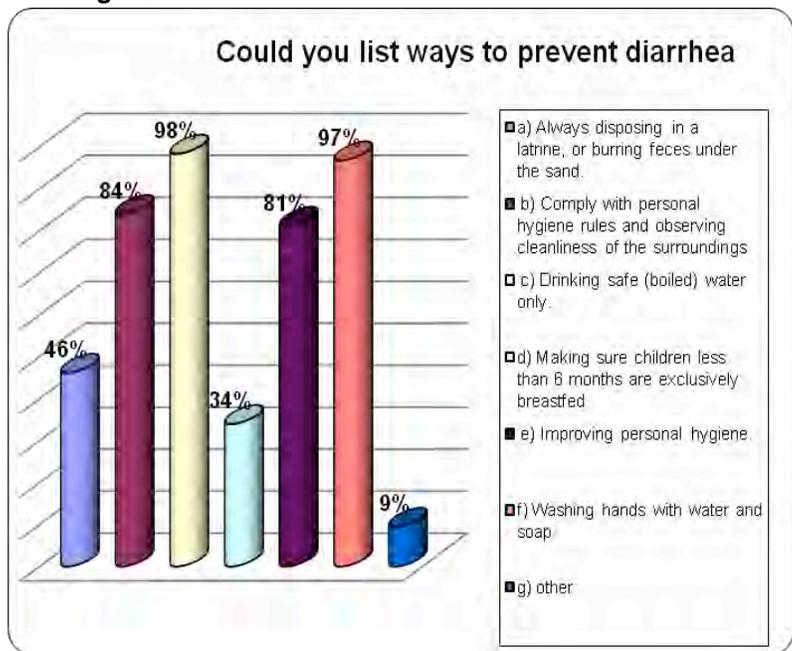
Children response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: From 180 respondents interviewed, all reported they knew how to prevent diarrhea.

Question 4: Could you list ways to prevent diarrhea?

Figure 4

respondents reported yes		
Children response		
Type	n	%
a) Always disposing in a latrine, or burying feces under the sand.	83	46%
b) Comply with personal hygiene rules and observing cleanliness of the surroundings	151	84%
c) Drinking safe (boiled) water only.	177	98%
d) Making sure children less than 6 months are exclusively breastfed	61	34%
e) Improving personal hygiene.	146	81%
f) Washing hands with water and soap	174	97%
g) other	17	9%



Results: The three most commonly cited methods for preventing diarrhea were drinking safe water (98%), improving personal hygiene (84%) and hand washing with soap (97%). 98% of respondents could list more than 2 ways of preventing diarrhea.

Question 5; Did you or any of your family members have diarrhea in the last month?

Figure 5

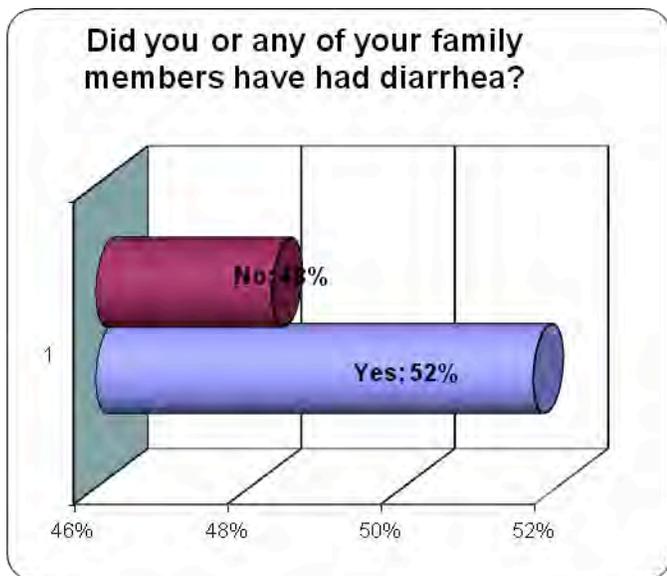


Table 5 Did you or any of your family members have had diarrhea last month?

respondents reported yes

Children response		
	n	%
Yes	93	52%
No	87	48%
Total	180	100%

Results: 92% (165) of school children responded that they or a family member had suffered from diarrhea in the last month. Only 8% indicated no one in their family had diarrhea in the last month.

Question 6: What should you do if you suspect that you have diarrhea?

Figure 6



Table 6 What should you do if you suspect that you have diarrhea?

respondents reported yes

Children response		
Type	n	%
a) Use ORS	157	87%
b) prevent diarrhea use Zink	6	3%
c) Visit a doctor	169	94%
d) other	10	6%
Total	180	100%

Results: When asked what to do when you have diarrhea 94% children responded that they would visit a doctor, 6% indicated that they would use other sources of treatment, 87% would use ORS and only 3% of respondents reported they would treat diarrhea by using Zinc.

Question 7: Can you prepare Oral Rehydration Solution (ORS)?

Figure 7

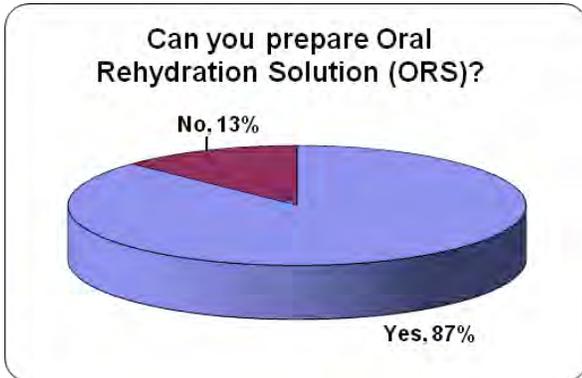


Table 7. Can you prepare Oral Rehydration Solution (ORS)?		
Children response		
	n	%
Yes	157	87%
No	23	13%
Total	180	100%

Results: 87% of respondents reported they could prepare ORS and 13% reported they could not prepare ORS.

Question 8: If yes, could you describe the process of its preparation?

Figure 8

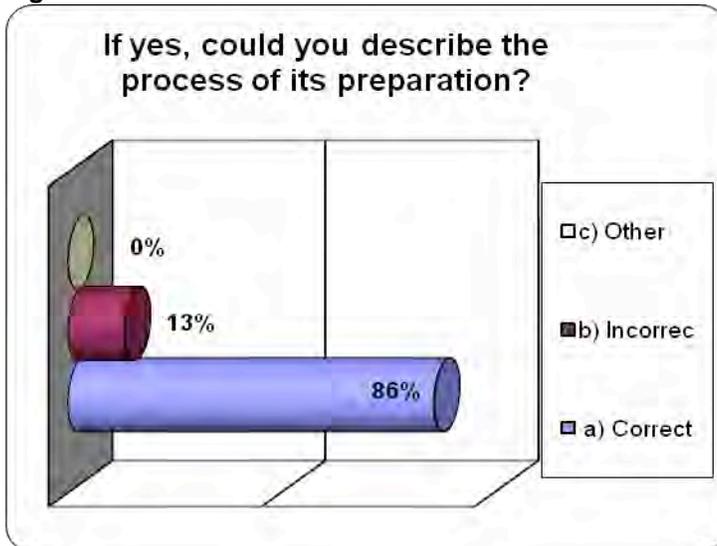


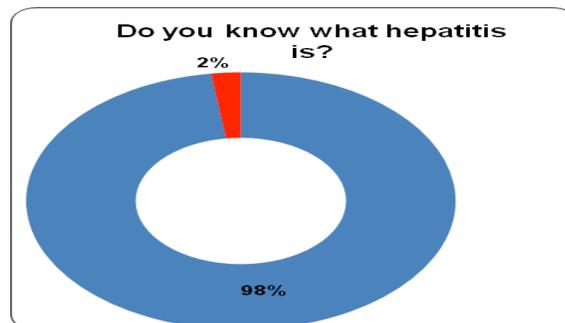
Table 8 If yes, could you describe the process of its preparation?		
Children response		
Type	n	%
a) Correct	135	86%
b) Incorrect	21	13%
c) Other	0	0%
Total	157	100%

Results: 86% of respondents prepared ORS correctly while 13% of respondents gave an incorrect method of ORS preparation.

Question 9: Do you know what hepatitis is?

Table 9 Do you know what hepatitis is?		
Children		
	n	%
Yes	176	98%
No	4	2%
Total	180	100%

Figure 9

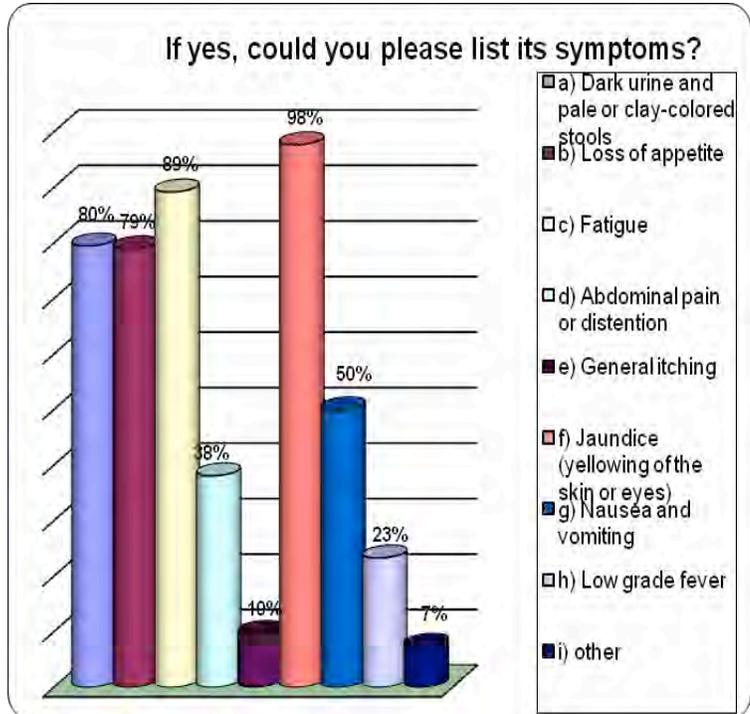


Results: 98% of respondents stated that they knew what hepatitis was and 2% reported they did not know what hepatitis was.

Question 10: If yes, could you please list its symptoms?

Figure 10

Table 10 If, yes, could you please list its symptoms?		
respondents reported yes		
Children response		
Type	n	%
a) Dark urine and pale or clay-colored stools	140	80%
b) Loss of appetite	139	79%
c) Fatigue	157	89%
d) Abdominal pain or distention	67	38%
e) General itching	17	10%
f) Jaundice (yellowing of the skin or eyes)	172	98%
g) Nausea and vomiting	88	50%
h) Low grade fever	41	23%
i) other	13	7%



Results: 98% of respondents cited jaundice (yellowing of the skin and eyes) as a symptom of hepatitis, 80% stated dark urine and pale or clay-colored stool as a symptom, 89% mentioned fatigue, 79% cited loss of appetite, 38% stated abdominal pain or distention, 50% cited nausea and vomiting and 23% of mentioned low grade fever as a symptom.

Question 11: What should you do if you suspect that you have hepatitis?

Figure 11



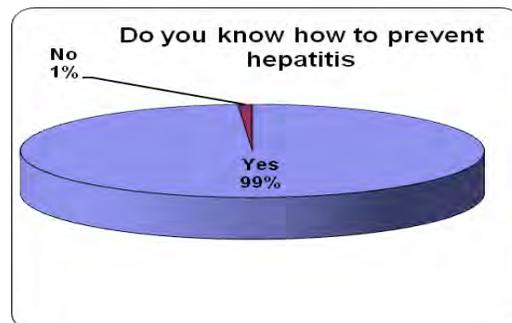
Table 11 What should you do if you suspect that you have hepatitis?		
Children response		
Type	n	%
Visit a doctor	175	99%
Other	1	1%
Total	176	100%

Results: 99% of children mentioned that they would visit a doctor if they suspected they had hepatitis, but 1% gave other responses.

Question 12: Do you know how to prevent hepatitis?

Table 12 Do you know how to prevent hepatitis		
Children response		
	n	%
Yes	175	99%
No	1	1%
Total	176	100%

Figure 12



Results: From 176 respondents interviewed, 99% reported they knew how to prevent hepatitis and 1% indicated that they did not know how to prevent hepatitis.

Question 13: If yes, could you list ways to prevent?

Figure 13

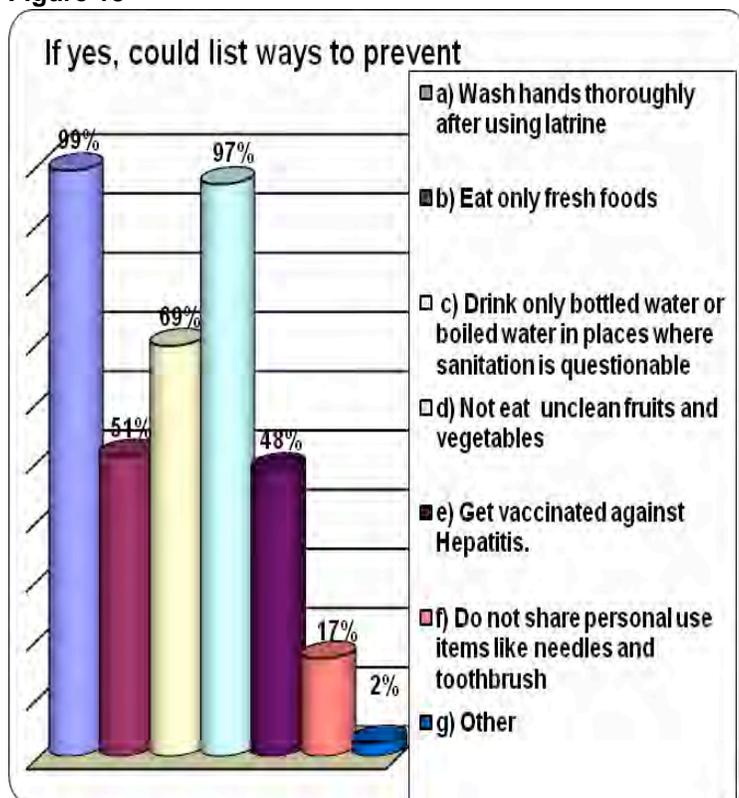


Table 13 If yes, could you list ways to prevent		
respondents reported yes		
Children response		
Type	n	%
a) Wash hands thoroughly after using latrine	174	99%
b) Eat only fresh foods	89	51%
c) Drink only bottled water or boiled water in places where sanitation is questionable	122	69%
d) Not eat unclean fruits and vegetables	170	97%
e) Get vaccinated against Hepatitis.	85	48%
f) Do not share personal use items like needles and toothbrush	29	17%
g) Other	4	2%

Results: The three most commonly cited methods for preventing hepatitis were hand washing after using latrine (99%), drinking boiled or bottled water (69%) and eating only fresh food (51%). The results indicate more than 100% as a result of multiple responses. 93% of respondents could list more than 2 ways of preventing hepatitis.

Question 14: Do you know what is Typhoid?

Figure 14

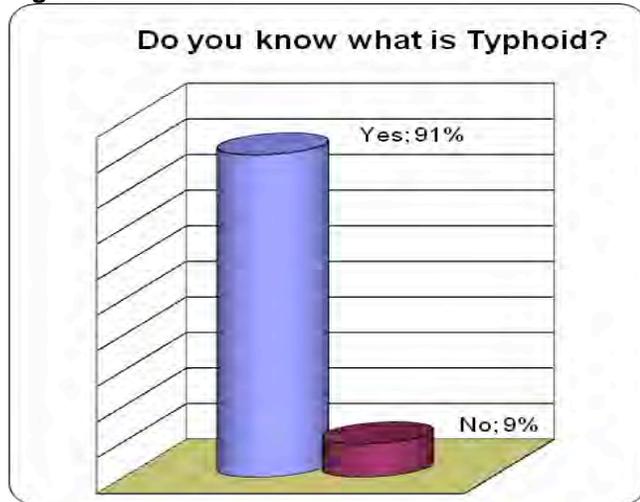


Table 14 Do you know what is Typhoid?		
respondents reported yes		
Children response		
	n	%
Yes	163	91%
No	17	9%
Total	180	100%

Results: From 180 interviewed children, 91% reported that they knew what typhoid was and 9% stated they did not know what typhoid was.

Question 15: If yes, could you please list its symptoms?

Figure 15

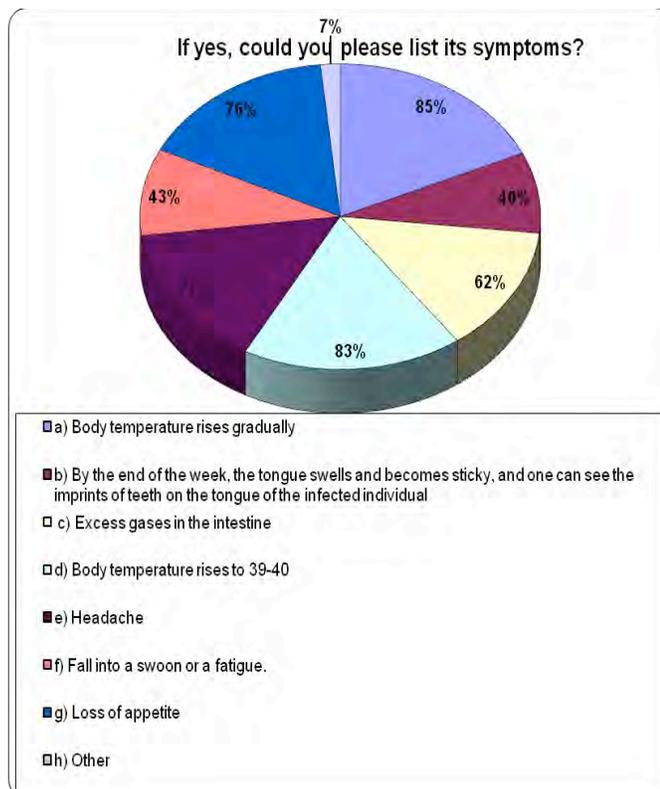


Table 15 If, yes, could you please list its symptoms?		
respondents reported yes		
Children response		
Total	n	%
a) Body temperature rises gradually	138	85%
b) By the end of the week, the tongue swells and becomes sticky, and one can see the imprints of teeth on the tongue of the infected individual	65	40%
c) Excess gases in the intestine	101	62%
d) Body temperature rises to 39-40	135	83%
e) Headache	115	71%
f) Fall into a swoon or a fatigue.	70	43%
g) Loss of appetite	123	76%
h) Other	12	7%

Results: 85% respondents cited body temperature rises gradually, 71% stated headache as a symptom of typhoid, 76% mentioned loss of appetite, 62% cited excess gases in the intestine, 83% mentioned body temperature rises 39-40, 43% cited fall into a swoon or a fatigue and 2% listed other general symptoms.

Question 16: What should you do if you have typhoid?

Figure 16

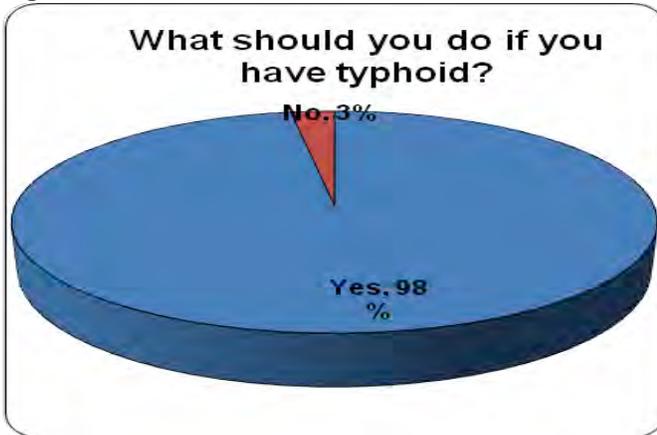


Table 16 What should you do if you have typhoid?		
respondents reported yes		
Children response		
	n	%
Visit a doctor	159	98%
Other	4	3%
Total	163	100%

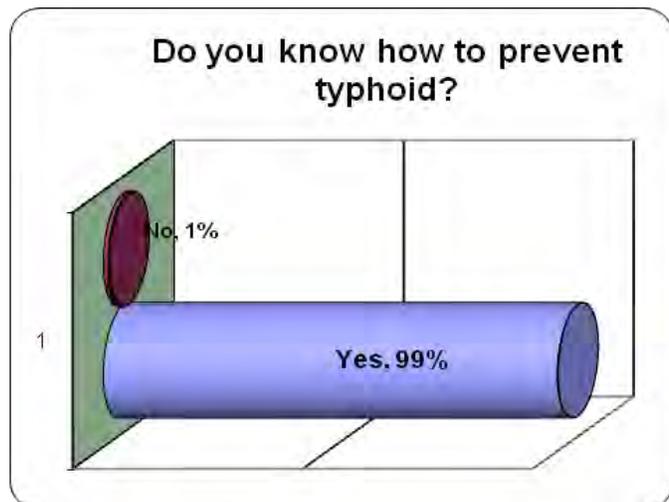
Results: When asked what to do when you have typhoid 98% of children responded that they would visit a doctor, 3% indicated that they use other sources of treatment.

Question 17: Do you know how to prevent typhoid?

Figure 17

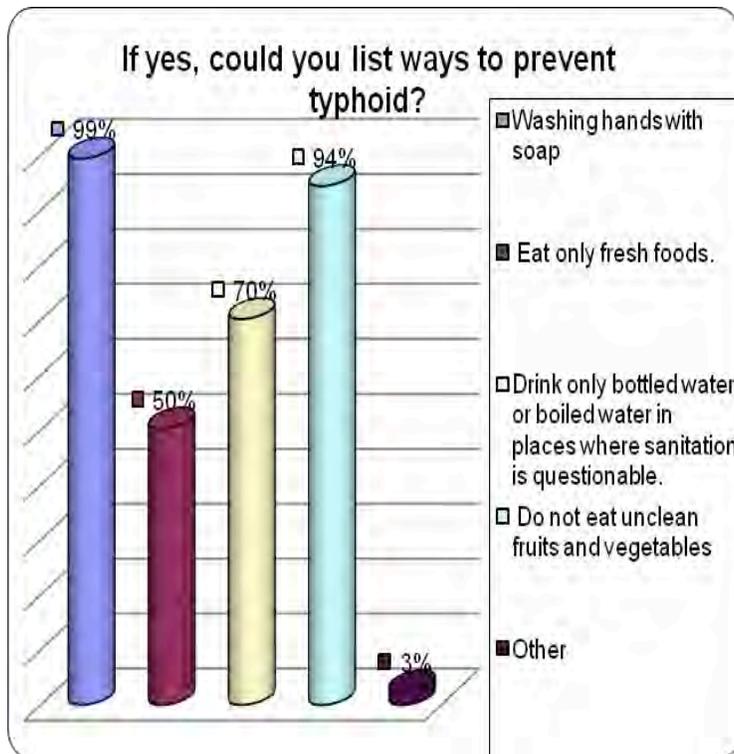
Table 17 Do you know how to prevent typhoid?		
Children		
	n	%
Yes	161	99%
No	2	1%
Total	163	100%

Results: From 163 respondents interviewed, 99% stated they knew how to prevent typhoid and 1% indicated that they did not know how to prevent typhoid.



Question 18: If yes, could you list ways to prevent typhoid?

Figure 18

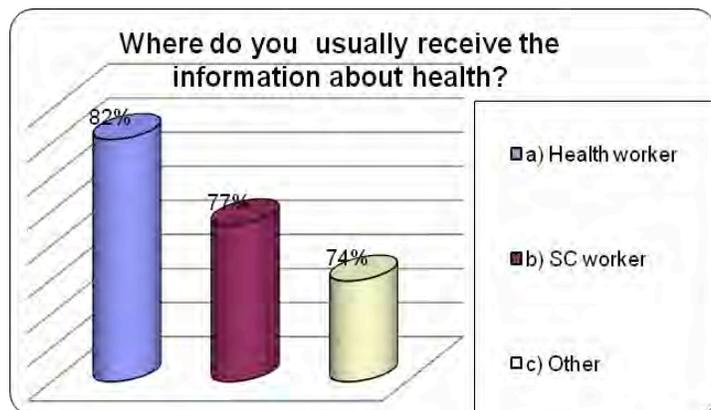


respondents reported yes		
Children response		
Type	n	%
Washing hands with soap	160	99%
Eat only fresh foods.	81	50%
Drink only bottled water or boiled water in places where sanitation is questionable.	113	70%
Do not eat unclean fruits and vegetables	152	94%
Other	4	3%

Results: The most commonly cited methods for preventing typhoid were hand washing (99%), drinking boiled or bottled water (70%), eating fresh foods (50%) and not eat unclean fruits and vegetables. 73% of children could list more than 2 ways of preventing typhoid.

Question 18.1: Where do you usually receive the information about health?

Figure 18.1



respondents reported yes		
Type	Citizen	
	n	%
a) Health worker	148	82%
b) SC worker	139	77%
c) Other	133	74%

Results: The respondents interviewed, 82% received from health worker, 77% received from SC staff, 74% received from other sources

Question 19: Do you wash your hands every day?

Figure 19



Table 19 Do you wash your hands every day?

Children response		
	n	%
Yes	180	100%
No	0	0%
Total	180	100%

Results: All of respondents stated that they washed their hands every day and do it in their daily basic practices

Question 20: When do you usually wash your hands with soap? Please, list all cases when you wash your hands with soap.

Figure 20

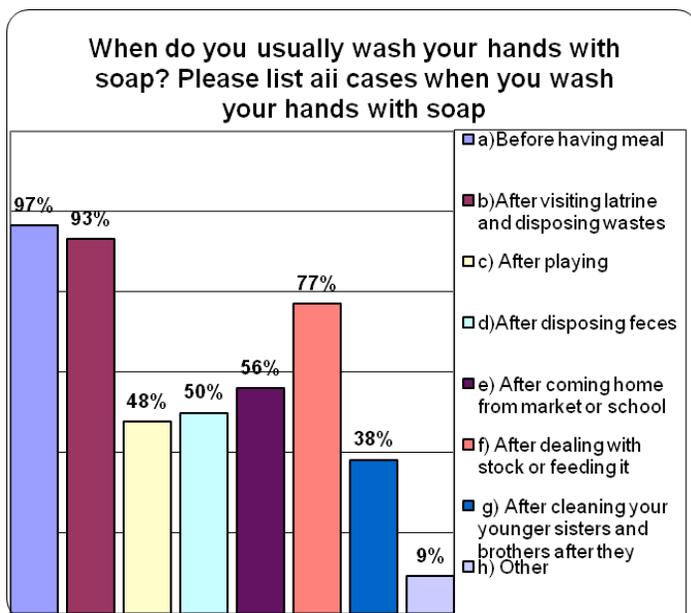


Table 20 When do you usually wash your hands with soap? Please, list all cases when you wash your hands with soap.

respondents reported yes

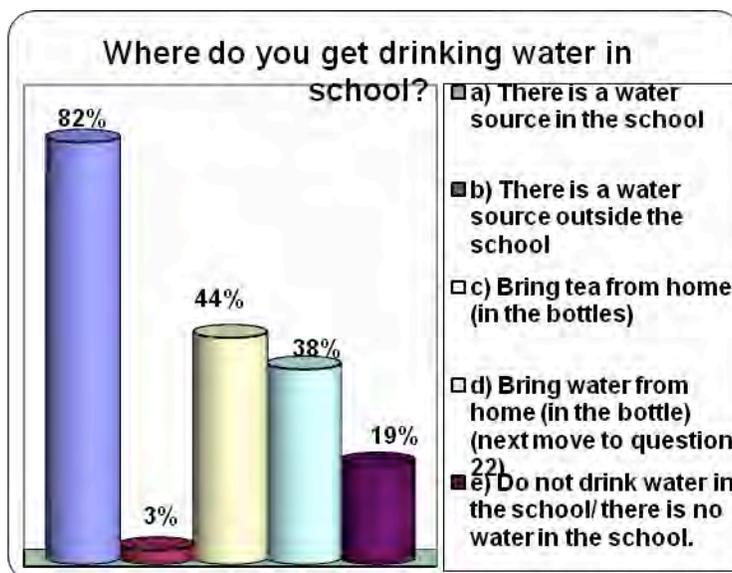
Children response		
Type	n	%
a) Before having meal	174	97%
b) After visiting latrine and disposing wastes	168	93%
c) After playing	86	48%
d) After disposing feces	90	50%
e) After coming home from market or school	101	56%
f) After dealing with stock or feeding it	139	77%
g) After cleaning your younger sisters and brothers after they	69	38%
h) Other	17	9%

Results: Of 180 children interviewed, 97% stated that they usually wash their hands with soap before having a meal, 93% after visiting latrine and disposing wastes, 48% after playing, 50% after disposing feces, 56% after coming home from market or school, 77% after dealing with stock or feeding it and 2% after cleaning your younger sisters and brothers after they with children's feces.

Question 21: Where do you get drinking water in school?

Table 21 Where do you get drinking water in school?		
respondents reported yes		
Children response		
Type	n	%
There is a water source in the school	147	82%
There is a water source outside the school	5	3%
Bring tea from home (in the bottles)	79	44%
Bring water from home (in the bottle) (next move to question 22)	68	38%
Do not drink water in the school/ there is no water in the school.	23	19%

Figure 21

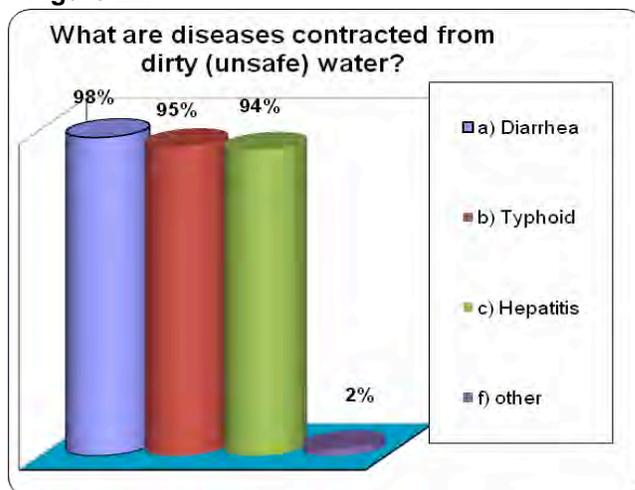


Results: Of the 180 interviewed children, 82% stated that the water source is located in the school, 3% mentioned they used water from sources located outside the school, 44% mentioned that they bring water from home and 19% cited that they do not drink water while at school.

Question 22.1: What are diseases contracted from dirty (unsafe) water?

Table 22.1. What are diseases contracted from dirty (unsafe) water?		
respondents reported yes		
Type	Citizen	
	n	%
a) Diarrhea	176	98%
b) Typhoid	171	95%
c) Hepatitis	169	94%
f) other	4	2%

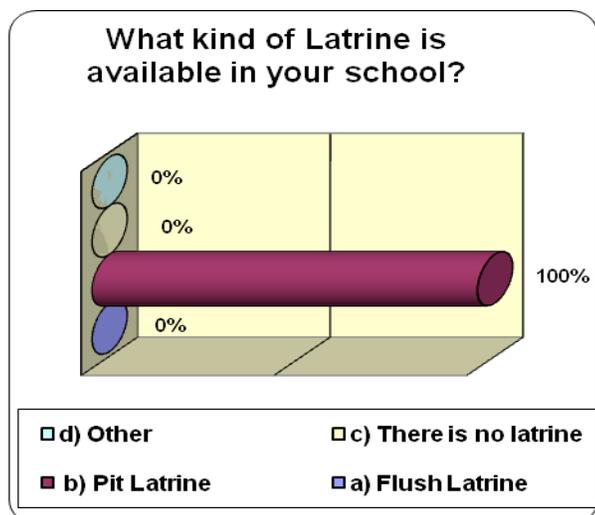
Figure 22.1



Results: When asked **what are diseases contracted from dirty (unsafe) water**, 98% of citizens answered Diarrhea, 95% of citizens answered Typhoid, 94% of citizens answered Hepatitis, 2% indicated as other.

Question 23: What kind of Latrine is available in your school?

Figure 23



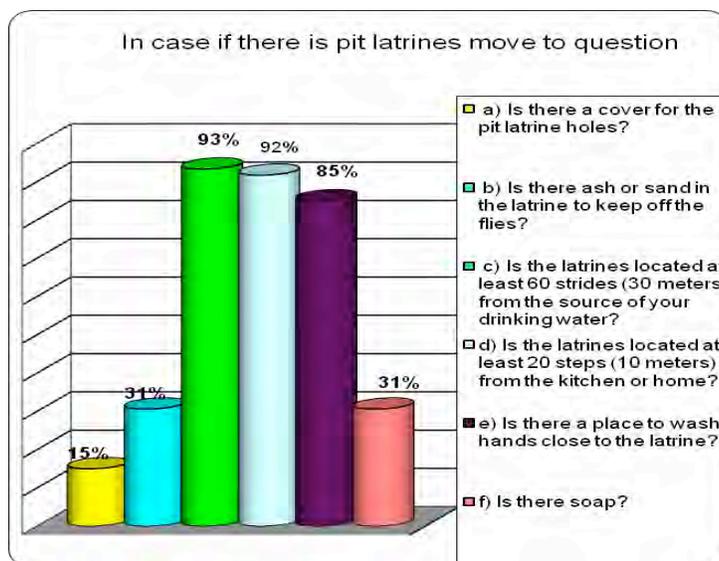
respondents reported yes		
Children response		
Type	n	%
a) Flush Latrine	0	0%
b) Pit Latrine	180	100%
c) There is no latrine	0	0%
d) Other	0	0%
Total	180	100%

Results: When asked about the type of latrine available and used at school, 100% mentioned pit latrines.

Question 24: In case if there is a pit latrine.....

Figure 24

Table 24 In case there is a latrine....		
Children response		
Type	n	%
a) Is there a cover for the pit latrine holes?	27	15%
b) Is there ash or sand in the latrine to keep off the flies?	55	31%
c) Is the latrine located at least 60 strides (30 meters) from the source of your drinking water?	168	93%
d) Is the latrine located at least 20 steps (10 meters) from the kitchen ?	165	92%
e) Is there a place to wash hands close to the latrine?	153	85%
f) Is there soap?	55	31%



Results: Of 180 respondents, 93% mentioned that school latrines were located at least 60 strides (30 meters) from the source of their drinking water and at least 20 steps from the kitchen. 85% indicated that they had a place to wash hands close by latrine and only 31% said their schools had soap in the place close by the latrine to wash hands.(The reason is that survey were conducted during school holiday and there is only some teachers in the schools)

CONCLUSIONS AND RECOMMENDATIONS

Education and communication are important components of a hygiene promotion programme. All people have a right to know about the relationship between water, sanitation, hygiene and the health of themselves and their families. However, education alone does not necessarily result in improved practices. Knowing about the causes of disease may help, but new hygiene practices may be too unfamiliar, too difficult, or take too much time, especially for poor people. Promoting behaviour change is a gradual process that involves working closely with communities, studying existing beliefs, defining motivation strategies, designing appropriate communication tools and finally encouraging practical steps towards positive practices. Communities should be fully engaged in the process at all stages using participatory processes, and special attention should be given to building on local knowledge and promoting existing positive traditional practices.

Behavioural change is necessary not only at the community level, but among decision makers as well. All stakeholders – from politicians and government officials to field workers and people themselves – must be encouraged to recognize the importance of hygiene.

- This exemplary TSDWP project changed family behaviors and community norms, empowered WASH committees and CTC Educators, improved skills, motivation and morale of local MoH staff at community level.
- The project significantly exceeded all targets for changes in household practices and knowledge on preventable health and hygiene & sanitation issues. The project also exceeded all targets for results in improved capacity of communities including children for the sustainability of the objectives
- Child to Child education were more effective on health and hygiene promotion at the community level and this interventions over other health education approaches
- The technical and leadership skills of the TSDWP staff and have produced highly competent local staff who will continue to be an asset to Tajikistan
- Forming WASH Committee members with a broader scope than just health and providing them with appropriate organization skills enabled them to assume a true leadership role in the community and evolve to pursuing major community development projects with outside donor and internal fund raising.
- There is need for further intervention in the target area and future projects focusing on improved sanitation infrastructure which is one of the main interventions to prevent infectious diseases.
- There is need for further intervention in the target area and future project focusing on regularly observation of schools and households to see soap in the households or at the schools to get observed availability of soap. Additionally, visit and observe the school latrines to assess the presence and status of the latrines
- Verify health seeking behavior with local health facilities
- **Hand-washing with soap.** Since knowledge and social acceptability of hand-washing with soap already appear to be high, simply providing information about why one should wash hands (to prevent disease) will not be sufficient to change behavior. Further exploration to identify the key motivators and barriers to hand-washing at critical times would be helpful in developing an effective BCC strategy in the future projects. For example:
 - Do people perceive washing hands with soap before meals, and after using the latrine or handling feces to be too difficult b/c of time required? Is soap not available? Is soap too expensive? If so, what can be done to change these perceptions and/or find solutions?
 - If not being able to remember to wash hands is a barrier, what might help people remember better? What visual cues would be practical?

Annex 1: DATA COLLECTION SCHEDULE FOR KNOWLEDGE, ATTITUDE & PRACTICE (KAP) SURVEY

TEAMS	27 July, 2012	30 July, 2012	31 July, 2012	August, 2012	6 August, 2012
Team #1 – Firuza & Abdurahmon	Khuji Bolo, Shahrinav Raion Navobod, Shahrinav Raion	Faizobod Town Village, Faizobod Raion	Chashmasor Village, Faizobod Raion Nodiri Village, Faizobod Raion Boboi Vali Village, Faizobod Raion	Hojiboi Village, Rudaki Raion	Shaikh Muzaffar Village, Tursunzoda Raion I May Village, Tursunzoda Raion Karateval Village, Tursunzoda Raion
Team #2- Mubina & Bahrom	Teppai Samarkandi Village, Rudaki Raion Kulmunda Village, Hisor Raion	Nilu Village, Hisor Raion Hojachildiyori Bolo Village, Hisor Raion		Khusnobod Village, Tursunzoda Raion	
Team#3- Abdusattor & Guljahon	Halkajar Village, Khuroson Raion 18 Hizd Khuroson Raion Budyoni, Khuroson Raion	Mehnatob Village, Bokhtar Raion Street Aini, Bokhtar Raion Street Mirzo Tursunzoda, Bokhtar Raion	Miskinobod Village, Vakhsh Raion		

Team#4 - Lola & Alisher	Street Nusratullo Makhsum, Sarband Raion	Guliston, Komsomol, Kuybishev Villages Bokhtar Raion			
	Street Uzbekiston, Sarband Raion				
	Vakhsh Village, Sarband Raion				

Table#2: Number of schoolchildren interviewed in the twenty eight communities of the nine raions

District	Jamoat	Village	Girls	Boys	Total
Shahrinav	Chuzi	1. Khuji Bolo	3	2	5
	Sabo	2. Navobod	7	8	15
1	2	2	10	10	20
Rudaki	Esanboy	1. Khojiboi	2	3	5
	Rohati	2..Tepai Samarkandi	8	7	15
1	2	2	10	10	20
Faizobod	Chashmasor	1.Chashmasor	1	0	1
	QalaiDasht	2.Boboi Vali	2	1	3
	Mehrobod	3.Nodiri	3	4	7
	Faizobod Jamoat-shaharak	4. Faizobod Town	4	5	9
1	4	4	10	10	20
Hisor	Mirzo Rizo	1..KhujiIdiyoroni bolo	2	1	3

	Khonakoikuhi	2. Nilu	5	6	11
	Dehkonobod	3 Qulmunda	3	3	6
1	3	3	10	10	20
Tursunzoda	1-May	1. Shaikh Muzaffar	2	2	4
	Pahtaobod Jamoat-Dehot	2. Karateval	3	2	5
	1 May	3. 1 May	1	1	2
	Rabot	4. Khusnobod	4	5	9
1	4	4	10	10	20
Khuroson	S.Ayni	1. Halkajar	3	3	6
	S.Ayni	2. 18 Partsezd	3	3	6
	S.Ayni	3. Budyony	4	4	8
1	1	3	10	10	20
Sarband	Vahdat	1.Vakhsh	3	3	6
	Shahrak-Sarband	2.Street Uzbekiston	2	3	5
	Shahrak-Sarband	3. Street N.. Makhsum	5	4	9
1	2	3	10	10	20
Bokhtar	Mehnatobod	1. Mehnatobod	3	2	5
	Navbahor	2.Komsomol	1	2	3
	Navbahor	3. Culiston	2	1	3
	Navbahor	4. Kuybishev	2	2	4
	I.Somoni	5. Street Ayni,	1	2	3
	I.Somoni	6. Street Tursunzoda	1	1	2
1	3	6	10	10	20

Vakhsh	Tojikobod	1. Miskinobod	10	10	20
1	1	1	10	10	20
9	22	28	90	90	180

Table#3: Number of adults interviewed in the twenty eight communities

District	Jamoat	Village	Woma n	Man	Total
Shahrinav	Chuzi	1. Khuji Bolo	3	2	5
	Sabo	2. Navobod	7	8	15
1	2	2	10	10	20
Rudaki	Esanboy	1. Khojiboi	2	3	5
	Rohati	2.Tepai Samarkandi	8	7	15
1	2	2	10	10	20
Faizobod	Chashmasor	1.Chashmasor	1	0	1
	QalaiDasht	2.Boboi Vali	2	1	3
	Mehrobod	3.Nodiri	3	4	7
	Faizobod Jamoat-shahrak	4. Faizobod Town	4	5	9
1	4	4	10	10	20
Hisor	Mirzo Rizo	1..KhujiIdiyoroni bolo	2	1	3
	Khonakoikuhi	2. Nilu	5	6	11
	Dehkonobod	3 Qulmunda	3	3	6
1	3	3	10	10	20
Tursunzoda	1-May	1. Shaikh Muzaffar	2	2	4
	Pahtaobod Jamoat-Dehot	2. Karateval	3	2	5
	1 May	3. 1 May	1	1	2
	Rabot	4. Khusnobod	4	5	9
1	4	4	10	10	20
Khuroson	S.Ayni	1. Halkajar	3	3	6
	S.Ayni	2. 18 Partsezd	3	3	6
	S.Ayni	3. Budyony	4	4	8
1	1	3	10	10	20
Sarband	Vahdat	1.Vakhsh	3	3	6
	Shahrak-Sarband	2.Street Uzbekiston	2	3	5
	Shahrak-Sarband	3. Street N. Makhsum	5	4	9
1	2	3	10	10	20

Bokhtar	Mehnatobod	1. Mehnatobod	3	2	5
	Navbahor	2.Komsomol	1	2	3
	Navbahor	3. Culiston	2	1	3
	Navbahor	4. Kuybishev	2	2	4
	I.Somoni	5. Street Ayni,	1	2	3
	I.Somoni	6. Street Tursunzoda	1	1	2
1	3	6	10	10	20
Vakhsh	Tojikobod	1. Miskinobod	10	10	20
1	1	1	10	10	20
9	22	28	90	90	180

Annex 2: Questionnaire for citizens

USAID- TAJIKISTAN SAFE DRINKING WATER PROJECT

Knowledge, Attitude and Practice (KAP) survey questionnaire for citizens

Special Remarks for interviewees' selection process:

- 1) Prior starting activities in the randomly selected village visit Jamoat Chairman first and explain the purpose of your visit. Seek Jamoat Chairman's permission to conduct interviews with 20 people (10 women and 10 men).
- 2) Once you obtained permission from the Jamoat Chairman, ask Mahalla Chairman to choose 1 person from any household of each mahalla street. Total number of the interviewees should be 20 = 10 women and 10 men. (Example: each fifth or each tenth should be the resident of each street).
- 3) Fill out information about demography of the area.

Interviewer'		District		Jamoat/village	
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Interviewee Code: (Jamoat Code number of the interviewee)		Full Name of the Interviewee:	
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Date of birth (day/month/year):		Gender: 1=man 2=women	
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Date of Interview Day/month/year:	
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Let's start				
# of question	Question		VN	Move to
01	Do you know what is diarrhea? <i>If No move to the question 05</i>		Yes No	→05
02	If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?	a) <i>Diarrhea</i>	02A	
		b) <i>Diarrhea and vomiting</i>	02B	
		c) <i>Diarrhea and fever</i>	02C	
		d) <i>Diarrhea with blood</i>	02D	
		e) <i>Diarrhea lasting more than 14 days</i>	02E	
		f) <i>Lethargy</i>	02F	
		g) <i>Unable to drink</i>	02G	
		h) <i>Unconsciousness</i>	02H	
		i) <i>Other_____</i>	02I	
03	Do you know how to prevent diarrhea?		Yes No	→05
04	Could you list ways to prevent diarrhea	a) <i>Washing hands with soap</i>	04A	
		b) <i>Always disposing in a latrine, or burring feces under the sand.</i>	04B	
		c) <i>Making sure children less than 6 months are exclusively breastfed.</i>	04C	
		d) <i>Drinking safe (boiled) water only.</i>	04D	
		e) <i>Eating only washed vegetables and fruits</i>	04E	
		f) <i>Other</i>	04F	
05	Did you or your children have had diarrhea?		Yes No	
06	What should you do in case if your children get diarrhea?	a) <i>Use ORS</i>	06A	

		<i>b) Take Zink tabs</i>	06B	
		<i>c) Visit a doctor</i>	06C	
		<i>d) Other</i>	06D	
07	Can you prepare Oral Rehydration Solution (ORS)? <i>If No move to the question 9</i>		Yes No	→09
08	If yes, could you describe the process of its preparation?	<i>a) Correct</i>	08A	
		<i>b) Incorrect</i>	08B	
		<i>c) Other _____</i>	08C	
09	Do you know what hepatitis is? <i>If No move to the question 14</i>		Yes No	→14
10	If, yes, could you please list its symptoms?	<i>a) Dark urine and pale or clay-colored stools</i>	10A	
		<i>b) Loss of appetite</i>	10B	
		<i>c) Fatigue</i>	10C	
		<i>d) Abdominal pain or distention</i>	10D	
		<i>e) General itching</i>	10E	
		<i>f) Jaundice (yellowing of the skin or eyes)</i>	10F	
		<i>g) Nausea and vomiting</i>	10G	
		<i>h) Low grade fever.</i>	10H	
		<i>i) Other _____</i>	10I	
11	Do you know how to prevent hepatitis?		Yes No	→14
12	Could you list ways to prevent Hepatitis	<i>a) Washing hands with soap.</i>	12A	
		<i>b) Eating only fresh food.</i>	12B	

		c) <i>Drinking only boiled or bottled water in places where sanitation is questionable.</i>	12C	
		d) <i>Not eating unclean fruits and vegetables.</i>	12D	
		e) <i>Not sharing personal use items like needles and toothbrush.</i>	12E	
		f) <i>Destroying flies as they are the vectors of the disease!</i>	12F	
		g) <i>Other _____</i>	12G	
13	What shall you do in case if you or your family members contract Hepatitis?	a) <i>Will visit doctor</i>	13A	
		b) <i>Other _____</i>	13B	
14	Do you know what Typhoid is? <i>If No move to the question 18.1</i>		Yes No	→18.1
15	If, yes, could you please list its symptoms?	a) <i>Body temperature rises gradually</i>	15A	
		b) <i>By the end of the week, the tongue swells and becomes sticky, and one can see the imprints of teeth on the tongue of the infected individual</i>	15B	
		c) <i>Excess gases in the intestine</i>	15C	
		d) <i>Body temperature rises to 39-40</i>	15D	
		e) <i>Headache</i>	15E	
		f) <i>Fall into a swoon or a fatigue.</i>	15F	
		g) <i>Loss of appetite</i>	15G	
		h) <i>Other _____</i>	15H	
16	Do you know how to prevent typhoid?		Yes No	→18.1
17	Could you list ways to prevent typhoid	a) <i>Washing hands with soap.</i>	17A	
		b) <i>Eating only fresh food.</i>	17B	

		c) <i>Drinking only boiled or bottled water in places where sanitation is questionable.</i>	17C	
		d) <i>Not eating unclean fruits and vegetables.</i>	17D	
		e) <i>Not sharing personal use items like needles and toothbrush.</i>	17E	
		f) <i>Destroying flies as they are the vectors of the disease</i>	17F	
		g) <i>Other _____</i>	17G	
18	What should you do if you have typhoid?	a) <i>Visit doctor</i>	18A	
		b) <i>Other _____</i>	18B	
18.1	Where do you usually receive the information about health?	a) <i>Health worker</i>	18.1A	
		b) <i>SC worker</i>	18.1B	
		c) <i>Other _____</i>	18.1C	
19	Do you wash your hands every day?		Yes No	→22
20	Do you use soap every day while hand washing?		Yes No	→22
21	When do you usually wash your hands with soap? Please list all cases when you wash your hands with soap. <i>There can be more than one answer, so encourage interviewees to provide as many answers as possible.</i>	a) <i>Before having meal</i>	21A	
		b) <i>After visiting latrine and disposing wastes</i>	21B	
		c) <i>Before providing meal</i>	21C	
		d) <i>After disposing feces</i>	21D	
		e) <i>After visiting market</i>	21E	
		f) <i>After any contact with cattle and its feeding</i>	21F	
		g) <i>After having contact with children' feces</i>	21G	
		h) <i>Before cooking</i>	21H	
		i) <i>Other _____</i>	21I	

22	What is the drinking water source for your household?	a) <i>The water source is inside the household</i>	22A	
		b) <i>The water source is located outside household (example: mahalla water source)</i>	22B	
		c) <i>From the irrigation ditch</i>	22C	
		d) <i>Other _____</i>	22D	

23	What water treatment methods do you use?	a) <i>Boil water for more than 20 minutes.</i>	23A	
		b) <i>Purification of water by sunrays.</i>	23B	
		c) <i>Chlorination (tablets)</i>	23C	
		d) <i>Filtration</i>	23D	
		e) <i>Water precipitation/ Sediment</i>	23E	
		f) <i>Other _____</i>	23F	

23.1	What are diseases contracted from dirty (unsafe) water?	a) <i>Diarrhea</i>	23.1A	
		b) <i>Typhoid</i>	23.1B	
		c) <i>Hepatitis</i>	23.1C	
		d) <i>Other _____</i>	23.1D	

24	What kind of Latrine is available in this household?	a) <i>Flush Latrine</i>	24A	
		b) <i>Pit Latrine</i>	24B	→25
		c) <i>Other _____</i>	24C	
		d) <i>There is no latrine</i>	24D	→26
In case if there is a flush latrine move to question 25. In case if there is no latrine move to question 26.				

	<i>In case if there is a pit latrine...</i>	25	
	a) <i>Is there a cover for the pit latrine holes?</i>	25A	
	b) <i>Is there ash or sand in the latrine to keep off the flies?</i>	25B	
	c) <i>Is the latrines located at least 60 strides (30 meters) from the source of your drinking water?</i>	25C	

25	d) Is the latrines located at least 20 steps (10 meters) from the kitchen or home?		25D	
	e) Is there a place to wash hands close to the latrine?		25E	
	f) Is there soap?		25F	
26	<i>In case if there is no latrine...</i>		26	
27	What place do you use for defecating?	<i>a) Neighbor's household</i>	27A	
		<i>b) Field</i>	27B	
		<i>c) Other _____</i>	27C	

We finished our questions!
You were of huge help for me today. Please note that I will not share your answers with anyone.
Thank you very much for your answers.

Annex 2: Questionnaire for school children

USAID TAJIKISTAN SAFE DRINKING WATER PROJECT (TSDWP).

Knowledge, Attitude and Practice (KAP) survey questionnaire for schoolchildren

Special Remarks for interviewees' selection process:

- 4) *Prior starting activities in the randomly selected school contact the Headmaster first and explain the purpose of your visit. Get Headmaster's permission on a survey among 20 high school students (10 girls and 10 boys).*
- 5) *Once you get the Headmaster's permission on conducting survey in the school, ask the Headmaster to provide you with the list of the head teachers in the senior classes, with focus on those that are in the school at the day of your visit. Next, write down the names of these teachers on the separate pieces of paper, wrap them and mix. Then, ask the Headmaster to pull one of these pieces of paper. Randomly select 20 students (10 boys and 10 girls) for the forthcoming interview from the selected teachers' classes.*
- 6) *During the first break, go to the selected teacher class and explain the purpose of your visit to both teacher and students. Divide students into 2 groups with boys in group # 1- and girls in group # 2 –. Write numbers from 1 through 12 on separate pieces of paper, wrap them, and put in one box or bag. Total number of the prepared pieces of paper should be equal to the total number of girls in the class. There should be 12 pieces of paper with number on them and the remaining blank. Those girls that pulled out piece of paper with number on it become the participants and girls with pulled blank paper, do not become participants.*
- 7) *Then exercise the same activity with the boys to select the interviewees.*
- 8) *Fill out information about demography of the area.*

Interviewer'		District:		Jamoat /Village		School	
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Student Code (School Code + Student Code)		Full Name of Student	
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Date of Birth: day/month/year		Gender: 1= boy	
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		2= girl	
--	--	---------	--

Date of Interview Day/month/year:	
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Let's start				
# of question	Question	VN	Move to	
01	Do you know what is diarrhea? <i>If No move to the question 05</i>	Yes No		→05
02	If you suffer from diarrhea, which danger signs will prompt you to seek treatment or advice?	j) Diarrhea	02A	
		k) Diarrhea and vomiting	02B	
		l) Diarrhea and fever	02C	
		m) Diarrhea with blood	02D	
		n) Diarrhea lasting more than 14 days	02E	
		o) Lethargy	02F	
		p) Unable to drink	02G	
		q) Unconsciousness	02H	
		r) Other	02I	
03	Do you know how to prevent diarrhea?	Yes No		→05
04	If yes, could you list ways to prevent diarrhea.	a) Always disposing in a latrine, or burying feces under the sand.	04A	
		b) Comply with personal hygiene rules and observing cleanliness of the surroundings	04B	
		c) Drinking safe (boiled) water only.	04C	
		d) Making sure children less than 6 months are exclusively breastfed.	04D	

		e) <i>Improving personal hygiene.</i>	04E	
		f) <i>Washing hands with water and soap</i>	04F	
		g) <i>Other _____</i>	04G	
05	Did you or any of your family members have had diarrhea?		Yes No	
06	What should you do if you suspect that you have diarrhea?	a) <i>Use ORS</i>	06A	
		b) <i>Take Zink tabs</i>	06B	
		c) <i>Visit a doctor</i>	06C	
		d) <i>Other</i>	06D	
07	Can you prepare Oral Rehydration Solution (ORS)? <i>If No move to the question 09</i>		Yes No	→09
08	If yes, could you describe the process of its preparation?	d) <i>Correct</i>	08A	
		e) <i>Incorrect</i>	08B	
		f) <i>Other _____</i>	08C	
09	Do you know what hepatitis is? <i>If No move to the question 14</i>		Yes No	→14
10	If, yes, could you please list its symptoms?	j) <i>Dark urine and pale or clay-colored stools</i>	10A	
		k) <i>Loss of appetite</i>	10B	
		l) <i>Fatigue</i>	10C	
		m) <i>Abdominal pain or distention</i>	10D	
		n) <i>General itching</i>	10E	
		o) <i>Jaundice (yellowing of the skin or eyes)</i>	10F	
		p) <i>Nausea and vomiting</i>	10G	
		q) <i>Low grade fever</i>	10H	

		<i>i) Other</i>	10I	
11	What should you do if you suspect that you have hepatitis?	<i>c) Visit a doctor</i>	11A	
		<i>d) Other _____</i>	11B	
12	Do you know how to prevent hepatitis?		Yes No	→14
13	If yes, could you list ways to prevent it	<i>a) Wash hands thoroughly after using latrine.</i>	13A	
		<i>b) Eat only fresh foods.</i>	13B	
		<i>e) Drink only bottled water or boiled water in places where sanitation is questionable</i>	13C	
		<i>f) Do not eat unclean fruits and vegetables</i>	13D	
		<i>g) Get vaccinated against Hepatitis.</i>	13E	
		<i>h) Do not share personal use items like needles and toothbrush</i>	13F	
		<i>i) Other</i>	13G	
14	Do know what is typhoid? <i>If No move to the question 19</i>		Yes No	→18.1
15	If, yes, could you please list its symptoms?	<i>i) Body temperature rises gradually</i>	15A	
		<i>j) By the end of the week, the tongue swells and becomes sticky, and one can see the imprints of teeth on the tongue of the infected individual</i>	15B	
		<i>k) Excess gases in the intestine</i>	15C	
		<i>l) Body temperature rises to 39-40</i>	15D	
		<i>m) Headache</i>	15E	
		<i>n) Fall into a swoon or a fatigue.</i>	15F	
		<i>o) Loss of appetite</i>	15G	
		<i>h) Other _____</i>	15H	
16	What should you do if you have typhoid?	<i>c) Visit a doctor</i>	16A	

		d) Other _____	16B	
17	Do you know how to prevent typhoid?		Yes No	→18.1
18	If yes, could you list ways to prevent typhoid?	a) <i>Wash hands thoroughly after using latrine.</i>	18A	
		b) <i>Eat only fresh foods.</i>	18B	
		c) <i>Drink only bottled water or boiled water in places where sanitation is questionable.</i>	18C	
		d) <i>Do not eat unclean fruits and vegetables.</i>	18D	
		e) <i>Other _____</i>	18E	
18.1	Where do you usually receive the information about health?	b) <i>Health worker</i>	18.1A	
		b) <i>SC worker</i>	18.1B	
		c) <i>Other _____</i>	18.1C	
19	Do you wash your hands every day?		Yes No	→21
20	If yes, when do you usually wash your hands with soap? Could you please list all the cases when you wash your hands. <i>There can be more than one answer, so encourage interviewees to provide as many answers as possible.</i>	a) <i>Before having meal.</i>	20A	
		b) <i>After using latrine.</i>	20B	
		c) <i>After playing.</i>	20C	
		d) <i>After disposing feces.</i>	20D	
		e) <i>After coming home from market or school.</i>	20E	
		f) <i>After dealing with stock or feeding it.</i>	20F	
		g) <i>After cleaning your younger sisters and brothers after they defecate.</i>	20G	
		h) <i>Other _____</i>	20H	
21	Where do you get drinking	a) <i>There is a water source in the school.</i>	21A	

	water in school?	b) <i>There is a water source outside the school (Ex: a water source in mahalla).</i>	21B		
		c) <i>Bring tea from home (in the bottles)</i>	21C		
		d) <i>Bring water from home (in the bottle) (next move to question 22).</i>	21D	→22	
		e) <i>Do not drink water in the school/ there is no water in the school.</i>	21E		
22	<i>Ask interviewees to show the bottle for water. In case the child doesn't have such bottle, please tick in the Yes box, and in case he/she doesn't have such bottle, tick in the No box.</i>		22		
22.1	What are diseases contracted from dirty water?	e) <i>Diarrhea</i>	23.1A		
		f) <i>Typhoid</i>	23.1B		
		g) <i>Hepatitis</i>	23.1C		
		h) <i>Other _____</i>	23.1D		
23	What kind of Latrine is available in your school?	e) <i>Flush Latrine</i>	23A		
		f) <i>Pit Latrine</i>	23B		→24
		g) <i>Other _____</i>	23C		
		h) <i>There is no latrine.</i>	23D		→25
<i>In case if there is pit latrines move to question 24. In case if there is no latrine move to question 25</i>					
24	a) <i>In case if there is a pit latrine...</i>		24A		
	b) <i>Is there ash or sand in the latrine to keep off the flies</i>		24B		
	c) <i>Is the latrines located at least 60 strides (30 meters) from the source of your drinking water?</i>		24C		
	d) <i>Is the latrines located at least 20 steps (10 meters) from the kitchen?</i>		24D		
	e) <i>Is there a place to wash hands close to the latrine?</i>		24E		
	f) <i>Is there soap?</i>		24F		
25	<i>In case if there is no latrine.....</i>		25		
26	What place do you use for defecating?	a) <i>Neighbor's household</i>	26A		
		b) <i>Field</i>	26B		

		<i>c) Other _____</i>	26C	
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We finished our questions!
You were of huge help for me today. Please note that I will not share your answers with anyone.
Thank you very much for your answers.

Final CHI/KAP Survey
Tajikistan Safe Drinking Water Project
Partner Communities

No	#	Partner Communities	Water System Provided	CHI Baseline	Comment	Water System date
2010						
1	1	Shaikh Muzaffar Village, 1-May Jamoat, Tursunzoda Raion	Yes	Yes		Jan 2011
2	2	Khuji Bolo Village, Chuzi Jamoat, Shahrinav Raion	Yes	Yes		Jan 2011
3	3	Halqajar and Hazhdahum Hizb villages, Sadridin Aini Jamoat, Khuroson Raion	Yes??????	Yes	Problem with pump?	Jan 2011
4	4	Mirzo Tursunzoda Street Neighborhood, Ismoili Somoni Jamoat, Bokhtar Raion	Yes	Yes		Dec 2010
5	5	Khojachildiyori Bolo Village, Mirzo Rizo Jamoat, Hissor Raion	Yes ?????	Yes	Problem	Feb 2011
6	6	Chashmasor Village, Jamoat-Dehot Chashmasor, Faizobod Raion	Yes	Yes		Jan 2011
7	7	Hojiboi Village, Esanboi Jamoat, Rudaki Raion	Yes	Yes		Jan 2011
8	8	Nusratullo Makhsum Street Neighborhood, Jamoat-Shaharak Sarband, Sarband Raion	Yes	Yes		Feb 2011
2011						
7	1	1 May Village, 1 May Jamoat, Tursunzoda Raion	Yes	Yes		Nov 2011
8	2	Sarband Jamoat-Shaharak of Sarband Raion	Yes	Yes		Feb 2012
9	3	I. Somoni Jamoat-Shaharak of Bokhtar Raion	Yes	Yes		Nov 2011
10	4	Miskinobod and Navkoram Villages, Tojikobod Jamoat, Vakhsh Raion	Yes	Yes		Nov 2011
11	5	Navobod Village, Sabo Jamoat, Shahrinav Raion	Yes	Yes		Nov 2011
12	6	Husnobod Village, Rabot Jamoat, Tursunzoda Raion	No	Yes		Nov 2012
13	7	Teppai Samarqandi Village, Rohati Jamoat, Rudaki Raion	Yes	Yes		Apr 2012
14	8	Nilu Village, Khonakoi Kuhi Jamoat, Hissor Raion	No	Yes		Sep 2012
15	9	Qulmunda Village, Dehqonobod Jamoat, Hisor Raion	Yes	Yes		Jan 2012
16	10	Mehnatobod Village, Mehnatobod Jamoat, Bokhtar Raion	Yes	Yes		Feb 2012
17	11	Pakhtaobod Village, Jamoat-Shaharak Pakhtaobod, Tursunzoda Raion	Yes	Yes		Nov 2011
18	12	Budyoni and Chorogi Kuhna Villages, as well as South-Western part of Uyali Settlement, S. Aini Jamoat-Dehot,	No	Yes		Mar 2012

Final CHI/KAP Survey
TSDWP Partner Communities

		Khuroson Raion				
19	13	Boboi Vali & Darai Gusfandak Villages, Qalai Dasht Jamoat-Dehot, Faizobod Raion	No	Yes		Sep 2012
20	14	Vakhsh Village, Vahdat Jamoat-Dehot, Sarband Raion	Yes	Yes		Apr 2012
21	15	Yakkabed, Ustoshams, Mehrobod 1, Mehrobod 2, Mehrobod 3, Nodiri Kulobod, Kulul and Sheramon Villages, Mehrobod Jamoat-Dehot, Faizobod Raion	No	Yes		Sep 2012
22	16	Mehnatobod Jamoat-Dehot and Komsomol, Lenin yuli, Gulisurkh Villages of Navbahor Jamoat-Dehot, Bokhtar Raion	No	Yes		Jul 2012
23	17	Faizobod Town, Faizobod Jamoat-Shaharak, Faizobod Raion	No	Yes		Jul 2012
2012						
24	1	Sohili Village, Hissor Jamoat Shaharak, Hissor Raion	No	Yes		July 2012
25	2	Navkor, Kalinin, Sverdlov and Pakhtaqaingar villages of Sarvati Istiqlol Jamoat, Bokhtar Raion	No	Yes		Jul 2012
26	3	Ferma Village, Tojikobod Jamoat, Vakhsh Raion	Yes	Yes		May 2012
27	4	Pakhtaobod (Navobod) Village, Tojikobod Jamoat, Vakhsh Raion	No	Yes		Aug 2012

TSDWP CHI Baseline and Final Surveys data on reported number of diarrhea cases among children 0-5 years old. USAID INDICATOR #6

#	Raion	Jamoat	Village	Reported number of diarrhea cases among children under 5 years old-BASELINE	Reported number of diarrhea cases among children under 5 years old FINAL	Percent reduction in number of diarrhea cases	Remarks
1	Tursunzoda	Yakumi May	Shaikh Muzafar	117	19	84%	v
2	Khuroson	S.Aini	Halqajar	75	24	68%	v
3	Khuroson	S.Aini	Hajdahum Hizb	200	10	95%	v
4	Bokhtar	I.Somoni	M.Tursunzoda	56	8	86%	v
5	Shahrinav	Chuzi	Khujji Bolo	57	30	47%	v
6	Rudaki	Esanboi	Hojibo	198	8	96%	v
7	Sarband	Sarband	N. Makhsum	60	24	60%	v
8	Faizobod	Chashmasor	Chashmasor	40	15	63%	v
9	Hisor	Mirzo Rizo	Khochildiyori Bolo	12	5	58%	v
10	Tursunzoda	Yakumi May	Yakumi May	39	41	---	data registered an increase in DD
11	Sarband	Sarband	Uzbekiston, Gorky, Orjenkidze, Firdavsi St.	69	4	94%	v
12	Bokhtar	I.Somoni	Ayni Street	417	4	99%	v
13	Vakhsh	Tojikobod	Navkoram & Miskinobod	78	51	35%	v
14	Shahrinav	Sabo	Navobod	213	6	97%	v
15	Tursunzoda	Rabot	Husnobod	106	17	84%	v
16	Rudaki	Rohati	Teppai Samarqandi	30	11	63%	v
17	Hisor	Khonakoi Kuhi	Nilu	134	38	72%	v
18	Hisor	Dehqonobod	Qulmunda	57	3	95%	v
19	Bokhtar	Mehnatobod	Mehnatobod	122	83	32%	v
20	Tursunzoda	Pakhtaobod	Pakhtaobod & Qarateval	126	5	96%	v
21	Khuroson	S.Aini	Budyoni, Uyali	26	10	62%	v

22	Faizobod	Qal'ai Dasht	Boboi Vali & Darai Gusfandak	38	18 in Boboi Vali and 12 in Gusfandak village	53% in Boboi Vali Village and 69% in Gusfandak Village	single baseline, double final, invalid.
23	Sarband	Vahdat	Vakhsh	4	21	---	data registered an increase in DD
24	Faizobod	Mehrobod	9 Villages	68	85	---	data registered an increase in DD
25	Bokhtar	Navbahor	5 villages	22	100	---	data registered an increase in DD
26	Faizobod	Faizobod	Faizobod Jamoat-Shaharak	161	160	1%	v
27	Hisor	Hisor	Sohili	199	7	96%	v
28	Bokhtar	Sarvati Istiqlol	4 villages	27	185	---	data registered an increase in DD
29	Vakhsh	Tojikobod	Ferma	20	10	50%	v
30	Vakhsh	Tojikobod	Pakhtaobod	420	440	---	data not included in final tally
				3153	1424	54.8%	



USAID
FROM THE AMERICAN PEOPLE

TAJIKISTAN

TAJIKISTAN SAFE DRINKING WATER PROJECT
FINAL REPORT

October FY2009 - September FY2012

Knowledge, Attitudes and Practices Survey Report on Point-of-Use Acceptability Test

Dushanbe
July 2012

The contents of this manual are the sole responsibility of Save the Children Federation, Inc. and do not necessarily reflect the views of USAID or the United States Government.

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Acronyms

BE	Baseline Evaluation
HH	Household
KAP	Knowledge Attitude Practices
MoH	Ministry of Health
PoU	Point of Use water treatment
PUR	Purification product
SES	Sanitary Epidemiological Station
STC	Save the Children
TSDWP	Tajikistan Safe Drinking Water Project
WBD	Water Borne Diseases
WHO	World Health Organization

INTRODUCTION

1.0. Water and Sanitation Situation in Tajikistan

Unsafe drinking water, along with poor sanitation and hygiene, are the main contributors to an estimated 2 billion cases of diarrhea disease annually worldwide, causing more than 1.5 million deaths, mostly among children under 5 years of age (WHO 2009). Diarrhea is a leading cause of malnutrition among children under five.

More than seven million people live in Tajikistan. According to the World Health Organization (WHO) only 58% of them have access to safe drinking water in rural areas and only 20% consume water from central water supply systems. Over 40% of villagers must carry water from unimproved surface sources and store it in their homes, increasing the likelihood of contamination even when the water points safe. Complications from diarrhea account for 16% of deaths among children under five in Tajikistan, and the link between diarrhea and malnutrition has been well established. Children who suffer multiple episodes of diarrhea per year tend toward stunting (nationally 29%), are chronically anemic (35% national average), and have an intestinal worm burden of 25%. While the causes of diarrhea among children under five also include feeding practices, poor quality drinking water and inadequate hygiene conditions and practices play a major role in the health status of these children. Studies have proven that water quantity (an access issue) is as important a factor in hygiene management as is water quality¹. More water more easily obtained leads to an increase in drinking water consumption, and more frequent personal hygiene rituals as well as more frequent domestic hygiene routines. Furthermore, investment in Water and Sanitation and Hygiene (WASH) strategies are calculated to bring about a 47% reduction in neonatal and child mortality on a yearly basis.²

Inadequate access to clean potable water, deteriorating sanitation facilities and poor personal hygiene practices result in a burden of disease that undermines individuals, households and communities' efforts to improve their standard of living and assure a healthy future. Many families in rural areas depend on irrigation canals or rivers for their water supply; the poor quality of water leads to a high incidence of preventable water borne diseases. While government and international organizations have started to address the problem of poor water and sanitation, local government has limited capacity to maintain and repair new and existing water and sanitation infrastructure. Over the last few years, extreme winter weather conditions have compounded this problem by increasing the need for repair and maintenance work.

¹ USAID Food and Nutrition Technical Assistance/FANTA project. Year on year. FANTA 2006, Tajikistan assessment.

² UNICEF Situational Analysis, Feb. 2012.

Diseases associated with contaminated water also exact a heavy economic load in Tajikistan both on the public health care system for treatment and on persons affected for transport to clinics, medicines and lost productivity. They also adversely impact school attendance and performance, particularly for girls and young women who must provide water for the household as well as care for and assume the duties of ill parents and siblings.

As part of its Millennium Development Goals, the United Nations expressed its commitment by 2015 to reduce by one half the people without sustainable access to safe drinking water. Estimates are that approximately 33% people (Millennium Development Goals Report) still lack this access in Tajikistan despite considerable progress in expanding the coverage of “improved water supplies” such as protected wells and springs, boreholes and household connections.

2.0. TSDWP intervention: Create pilot demonstration project(s) for initial consumer acceptance testing of Point Of Use water treatment

In countries like Tajikistan, most people – predominately women and children – spend a portion of their day collecting, carrying and storing water for drinking. The water that ends up in the house does not originate from a typical water treatment plant and supply system, but comes from a variety of sources including hand dug wells, open canals, river, tube wells, springs and stone taps. If the water is not already contaminated at the source, it often becomes contaminated at some point during transport and/or during handling and storage before it is consumed.

Considering the reality in many developing countries like Tajikistan, where reliable access to safe drinking water supplies is limited and individuals are responsible for ensuring their drinking water is safe, it is appropriate to include household water treatment technology as a means of a comprehensive program to provide clean drinking water. In fact, household water treatment is a proven and recognized approach for providing safe drinking water and reducing water borne diseases. The Network for Household Treatment and Safe Storage of Water led by WHO and UNICEF provides a platform for sharing data, experiences and guidance on POU water treatment.

TSDWP worked with communities (both local government & citizens), to increase household access to a sustainable potable water supply. This was accomplished by 1) improving community capacity; 2) supporting communities in building water supply infrastructure; 3) involving communities in the operation and management of this infrastructure; 4) providing intensive training and promotion of improved health and hygiene and 5) Point-of-Use (POU) Water Treatment consumer acceptance test activities in two pilot communities.

The TSDWP implemented the Point-of-Use (POU) Water Treatment consumer acceptance test activities in Year 3. As per the TSDWP work program, Save the Children team selected two pilot communities. Using a set of criteria, the project selected those villages where the rate of water-borne diseases (WBD) is high, and the people have no access to safe drinking water. Save the Children International has closely collaborated with P&G company which provided SCI with a substantial number of the PUR packets to various SCI projects, including the TSDWP, to distribute free of charge.

The PUR packet was developed by Procter & Gamble (P&G) in collaboration with the US Centers for Disease Control and Prevention (CDC). Created to enable people anywhere in the world to purify dirty water in a simpler, more affordable and convenient way, the PUR packet is based on technology similar to municipal water systems in developed countries. The PUR packet is a powdered mixture with combination flocculent and chlorine disinfectant that removes pathogenic microorganisms and suspended matter, making previously contaminated water clean. Each packet treats 10L of water.

Prior to distribution of the packets, SCI conducted environmental compliance due diligence and received official approval from the following government agencies: 1) Drugs control and Pharmaceutical department of the Khatlon region, 2) Sanitary Epidemiology Station tested PUR packet and provided the Certificate of Analysis. Additionally, SCI received a Certificate of Analysis from P&G in Pakistan.

The TSDWP Health Team distributed 365,400 PUR packets to 812 household members in two pilot communities for a period of 3 months in order to assess the acceptability of the product, and willingness of the population to use this product in the future. The Health Team calculated the number of packets based on household's needs that one household will consume 50 liter of water per day.

During the distribution of the PUR packets, the project staff conducted training for the household members on the correct usage of this product through demonstrations. After three months of use, the project conducted a final survey in order to test the acceptability, usage and willingness of community people to use and pay for the PUR product.

OBJECTIVES OF KAP SURVEY

From June 21 to 25, 2012, Health Staff of TSDWP conducted a final survey in the following two (2) pilot communities in: 1) Ruzobod Village, Kirov Jamoat, Vakhsh Raion, and 2) Khursandi Village, Mehnatobod Jamoat, Bokhtar Raion. The final survey collected data from 60 household members in the two pilot communities.

The aim of the survey was to assess usage and acceptance level of PUR point-of-use water treatment packets and its effectiveness among mentioned pilot communities. The KAP survey collected data on the following topics:

- Current condition of PoU water treatment in the households.
- PoU water treatment related knowledge and practices among households' members.
- To test the acceptability, usage and willingness of the community people to use it free or with payment.

In addition to providing baseline and final data, the KAP survey provides information on the following behavioral factors such as: 1) knowledge of various important aspects of using safe drinking water; 2) self-reported use of health and hygiene measures.

METHODS AND SAMPLING

The TSDWP Health Team developed the questionnaires for the KAP survey for household members of two pilot communities. The questionnaire included 18 questions related to PoU water treatment product and its effectiveness, acceptability and usage in these pilot communities. The questionnaires were developed by STC in close collaboration with TSDWP and were field tested prior to the survey. (Annex 1). The KAP survey was conducted in the following communities:

1. Ruzobod Village, Kirov Jamoat, Vakhsh Raion,
2. Khursandi Village, Mehnatobod Jamoat, Bokhtar Raion.

For the methodology, a 30-cluster sampling method was employed in each village. Two streets were randomly selected and 30 households were randomly selected. In total, 60 women from two pilot communities were interviewed. Additionally, the project staff collected the rate of the WBDs such as diarrhea, hepatitis and typhoid in the two villages and one control village in order to assess the effectiveness and impact of the PUR product to decrease the rate of the WBDs in those pilot communities.

The TSDWP Data Entry and Monitoring Specialist assisted with data entry and analyses of the KAP survey data.

Table 1: Number of adults interviewed in the two pilot communities

	Targeted Communities	Number of adults interviewed
N	Raion/Jamoat/Village	Total
1	Ruzobod Village, Kirov Jamoat, Vakhsh Raion	30
2	Khursandi Village, Mehnatobod Jamoat, Bokhtar Raion	30
	Total	60

SUMMARY OF FINDINGS

The sample size of 60 respondents represents 7% of the 812 individuals who received the products. However, as the respondents are the principal water managers in their homes, they represent all of the members in their household – for a proxy total of 600 individuals.

Use of PUR Product

- From 60 respondents, 81% reported that they had used other methods of treating water before, such as boiling, filtration and sedimentation (settling). This suggests that people are familiar with the problem of unsafe water.
- From 60 respondents, 98% reported that they had received the PUR packets from TSDWP;
- From 60 respondents, 83% understood the correct use the PUR packets. This suggests that the training was effective.
- 90% of respondents who used PUR point-of-use water treatment packets used them correctly³.
- From 60 respondents, 88% reported that they had ever used PUR.
- From 60 respondents, 58% reported they used the PUR packets sometimes; 24% mentioned that they used it most times; 7% mentioned that they used it always; 10% said that they do not use it.
- From 60 respondents, 12% reported that they did not use it due to following reasons:
 - It is a time consuming process
 - Heads of households' resistance on use of this product (in-laws);
 - Do not believe the product is effective.
- From 60 respondents 68% mentioned that they use the treated water for drinking purposes; 54 % mentioned for both drinking and cooking; and 27% said that they use the treated water for the washing hands.

Product Acceptability

- From 60 respondents 85% stated that the PUR packets is useful for their households and met their needs.
- From 60 respondents 97% mentioned that their household' members did not contract any infectious diseases after using the PUR product.
- From 60 respondents 70% stated that they would like to continue using PUR product and 30% that they do not continue using this due to the following reasons: do not believe it is effective; smell; it is time consuming process and general resistance to it.
- From 60 respondents only 15% mentioned that they are able to pay (1-3 Tajik somoni; 0,20-0,62 US dollar) for this product and 85% said that they are not ready to

³ Interviewers had a standard description of instructions against which they compared the respondent's answer.

pay for this due to following reasons: lack of funds, taking time for the preparation, prefer other water purification methods and not interested in water treatment.

- From 60 respondents 46% mentioned that they prefer the PUR method of water treatment; 2% mentioned the chlorine method and 52% mentioned other methods (boiling, filtration and sedimentation) and mentioned that they are using these methods because it easy for them.
- From 60 respondents 10% mentioned that they have seen only chlorine in the local markets. Nobody had seen PUR in the market.
- 93% respondents know which type of infectious diseases can be prevented by using safe water.

CONCLUSIONS

Traditional arguments for the low adoption of POU products focus on affordability, consumers' lack of information about germs and the dangers of unsafe water, and specific products not meshing with a household's preferences. In this project we provided free trials of one POU option and repeated informational messages explaining the dangers of untreated water.

Despite the free distribution of the product, consistent use of PUR was not high pointing to barriers beyond cost. While a majority of household members (88%) had tried the product, and 85% thought that PUR was useful and met household needs, consistent use was lower. Only 31% of respondents reported that they always or usually use the product. This is a reasonable adoption rate, but given the short duration of the project and the provision of free packets it is likely that the consistent use would drop significantly under more normal circumstances. In fact, 85% of respondents reported that they were not willing to pay for the product. Though this reported unwillingness to purchase the product may be artificially high because participants desired to continue receiving the product free, it is likely that consistent use would drop dramatically if households had to purchase the produce in the local market.

It does appear that the training and health education that was provided along with the PUR packets was effective with the majority of households understanding proper use of PUR (not demonstrated, only asked) as well as general information on prevention of water borne diseases.

Data also reveals that more than half of respondents prefer other POU water treatment options to PUR. Other options include boiling, filtration and chlorination (without the flocculent included in PUR) This study only looked at adoption of PUR and did not provide a range of options or directly compare adoption of alternative POU options. Some people were also not convinced that PUR was effective at providing safe drinking water, which also limited adoption.

However, for a more widespread acceptance to this project a longer timeframe would be required, perhaps over the span of a number of years or incorporated into a development project.

Without a better understanding of the effectiveness of the product and aspirations of the target end-users, household-based water treatment is unlikely to reduce morbidity and mortality substantially in urban and similar populations.

In summary, the survey found the following results:

-The training /education was effective as most HH understood proper use of PUR

-Though PUR was appreciated, few HH were both able and willing to pay for it.

-54% of people preferred other POU treatment options rather than PUR which indicates a broader interest in POU options, with PUR being one possible technology. Other options may be more appropriate for some households.

RECOMENDATIONS

1. For sustainability, water treatment options need to be available in local markets at an affordable price. Ensuring sustainable access to products and promoting a range of POU options rather than only one may lead to improved adoption and consistent use of POU.
2. Partnership with the regional and district MOH and sanitary epidemiology station (SES) would help to influence commitment to make POU options easily available as well as providing support on community mobilization and behavior change communication at the community level.
3. Only 31 % (24% usually and 7% always) of households consistently use the packets. Integrating POU promotion and treatment into longer term development programs may also increase the likelihood of adoption with more time for sensitization, education and promotion.
4. Developing and delivery more culturally relevant BCC materials over time could help with promotion of POU. Use of educational video clips may be a helpful strategy.
5. Pilot the use of PUR packets or other POU water treatment in more remote villages where access to potable water is almost non-existent
6. The PoU water treatment introduction and test should be conducted in the summer period, because it will to easier to demonstrate the effectiveness of POU products to reduce the WBDs when they are most common.

Annex 1.

USAID – TAJIKISTAN SAFE DRINKING WATER PROJECT

Questionnaire on Use of Purifier of Water (PUR)

(for use at the community level)

Name of Raion: _____ **Name of Jamoat:** _____ **Name of Village:** _____

Date: _____ **How many people live in your household?**

Name of Community Health Educator: _____

#	Question	Answer	response selection	
01	Have you been given a Purifier of Water (PUR)? <i>If "No", please to end the questionnaires end go to another household</i>		Yes No	
02	Did you use any other methods of treating water before?		Yes No	No - >03
	<i>If "Yes", please explain what type.</i>	_____ - _____ - _____		

	Have you been using a Purifier of Water (PUR) after it has been distributed to you?	Yes No	Yes - >04	
03	<p><i>If “No”, please provide explanation in the answer box.</i></p> <p><i>(If “Yes”, move to next questions).</i></p>	a) <i>It is a time-consuming process</i>	A	
		b) <i>Heads of households’ resistance in use of this product (mother-in-law, father-in-law)</i>	B	
		c) <i>Other_____</i>	C	
04	How do you treat water with PUR?	a) <i>Correct</i>	A	
		b) <i>Incorrect</i>	B	
05	How frequently do you use PUR?	a) <i>Always</i>	A	
		b) <i>Most days</i>	B	
		c) <i>Sometimes</i>	C	
		d) <i>Never</i>	D	
		e) <i>Other _____</i>	E	
06	What do you use treated water for?	a) <i>Drinking</i>	A	
		b) <i>Cooking</i>	B	
		c) <i>Washing hands</i>	C	
		d) <i>Other</i>	D	
07	How many packets did you use?	a) <i>A week?</i> b) <i>A day?</i>		
08	Were you satisfied with the quality of water after using the purification packet?	Yes No	Yes - >09	

	<i>If "No", please provide explanation</i>	_____		
09	Were you satisfied with the taste of the product?		Yes No	
10	In your opinion, what is the purpose of Purifier of Water?	<i>a) Water treatment</i>	A	
		<i>b) Prevention of infectious water-borne diseases (such as diarrhea, typhoid, and hepatitis)</i>	B	
		<i>c) Other _____</i>	C	
11	Was this product useful at all to your household? Did it meet your needs? <i>If "No", please provide explanation.</i>		Yes No	
12	Did any members of your household contract any infectious diseases after using the product (PUR)? <i>If "Yes", please cite the name of the disease.</i>	<i>a) Diarrhea</i>	A	No - >13
		<i>b) Typhoid</i>	B	
		<i>c) Hepatitis A</i>	C	
		<i>d) Other _____</i>	D	
13	Would you like to continue using a Purifier of Water (PUR)? <i>If "No", please provide explanation in the answer box and skip to question 16.</i>	<i>a) It is a time-consuming process</i>	A	Yes - >14
		<i>b) It changes the taste of drinking water</i>	B	
		<i>c) Other _____</i>	C	
14	Are you ready to buy Purifier of Water for a certain price?		Yes	Yes - >15

			No	
	<i>If “No”, please provide explanation in the answer box and skip to question 16.</i>	a) <i>Lack of funds</i>	A	
		b) <i>Lack of access to this product</i>	B	
		c) <i>Prefer other water purification method</i>	C	
		d) <i>Not interested in water treatment</i>	D	
		e) <i>Other _____</i>	E	
15	How much would you be willing to pay per packet?	a) <i>1-3 somoni</i>	A	
		b) <i>3-5 somoni</i>	B	
		c) <i>more than 5-7 somoni</i>	C	
16	What is your preferred method of treating water?	a) <i>PUR</i>	A	
		b) <i>Chlorine</i>	B	
		c) <i>other</i>	C	
17	Why do you prefer that method?	_____		

18	What type of water treatment / purifiers have you seen in the local market?	a) <i>PUR</i>	A	
		b) <i>chlorine</i>	B	
		c) <i>other</i>	C	

We appreciate your answers

ANNEX 7

FINAL PERFORMANCE INDICATORS

USAID Standard Indicators

PERFORMANCE INDICATOR	INDICATOR DEFINITION	DATA SOURCE	UNIT OF MEASUREMENT	DATA COLLECTION SCHEDULE & STAFF ASSIGNMENT	RESULTS**					
					Target			Actual		
					FY10	FY11	FY12	FY10	FY11	FY12
Number of men in target areas with access to improved drinking water supply as a result of USG assistance	Number of men in partner communities served by grant funded water projects and/or number of men using point-of-use treatment	Community Health Index (CHI)	Number of men served by water systems Number of men using point-of-use treatment methods	Quarterly: TSDWP Community Liaison	8,230 (38%)	18,741.6 (38%)	8,983.2 (38%)	7,656	41,678	6,997
Number of women in target areas with access to improved drinking water supply as a result of USG assistance	Number of women in partner communities served by grant funded water projects and/or number of women using point-of-use treatment	CHI	Number of women served by water systems Number of women using point-of-use treatment methods	Quarterly: TSDWP Community Liaison	13,430 (62%)	30,578.4 (62%)	14,656.8 (62%)	7,322	43,503	7,242
Total number of people in target areas with access to improved drinking water supply as a result of USG assistance	Total number of people in partner communities served by grant funded water projects and/or number of women using point-of-use treatment	CHI	Total number of people served by water systems Total number of people using point-of-use treatment methods	Quarterly: TSDWP Community Liaison	21, 660	49, 320	23,640	14,978	85,181	14,239
Number of hours per day that households in USG assisted programs have potable water service	Number of hours per day project supported water systems are operational	Records of electrical consumption by pumps on project supported water systems	Number of kilowatt hours of electricity consumed divided by the nominal power of the pump(s)	Quarterly: TSDWP Community Liaison	3 hours	6 hours	12 hours	19 hours	19 hours	18 hours
Percentage of operations and maintenance cost for water supply and sanitation services covered through customer charges in USG–assisted target areas	Total user charges collected in Somoni as a percent of total system operating costs	Financial reports generated by management body for community water systems	Customer user charges expressed in Somoni	Quarterly: TSDWP Community Liaison	50%	75%	90%	Foot note ¹	80%	95% Foot note ²
Incidence of diarrhea among children 0-2 years of age ³	Number of cases of infant diarrhea reported in partner communities	CHI – Community Health Workers	Number of cases of infant diarrhea in ages 0-5	Quarterly: Health Team Manager	15%	TBD	TBD	Foot note ³		54.8% ⁴

** Data is not cumulative, but is calculated year by year.

¹ Can only be assessed after 12 months of fully operating water system – only 4 systems met this criteria at close of project.

² Calculation done only for communities with a CWB established by TSDWP, i.e., 13 out of 29.

³ TSDWP adjusted this to ages 0-5 to accommodate MoH record keeping.

³ CHI baseline and intermediate data is specific to separate communities as they came on line with the project, thus no comprehensive data has a value here.

⁴ Represents 23 of 29 communities.

TSDWP Indicators

PERFORMANCE INDICATOR	INDICATOR DEFINITION	DATA SOURCE	UNIT OF MEASUREMENT	DATA COLLECTION SCHEDULE & STAFF ASSIGNMENT	RESULTS**					
					Target			Actual		
					FY10	FY11	FY12	FY10	FY11	FY12
Task 1: Increase access to sustainable, safe drinking water supply in rural Tajikistan through support for improvements in local government capacity, supply infrastructure, and community involvement in the operation and management of this infrastructure.										
1.1. Percent improvement in collection rates for water services providers in partner communities	Percent of increase in collections from year to year	CHI, Quarterly Report	Service provider's monthly collections in Somoni	Quarterly: TSDWP Community Liaison	25%	15%	5%	Foot note ⁵	100% ⁶ 2/29	100% 13/29
1.2. Number of Water, Sanitation & Health Committees (WASH) established or strengthened (with targeted membership of at least 50% women)	Number of WASH committees per year established or strengthened	CHI, Quarterly Report	Number of WASH committees established or strengthened	Quarterly: TSDWP Community Liaison	7	16	7	8	17	4
1.3. Number of water boards/ committees established & operating in accordance with adopted community health action plans	Number of water boards/ committees established per year	CHI, Quarterly Report	Number of water boards/ committees established or strengthened	Quarterly: TSDWP Community Liaison	7	16	7	0	5	8
1.4. Number of water infrastructure systems rehabilitated	Number of project grant funded water systems completed per year	CHI, Quarterly Report	Number of project grant funded water systems completed	Quarterly: TSDWP Community Liaison	7	16	7	8	17	4
1.5. Percentage of water quality samples that complied with applicable Tajikistan national water quality standards.	Number of compliant water quality samples from project assisted systems	National or Project laboratories and/or water test kits	Number water quality samples that meet Tajikistan national water quality standards	Quarterly: Designated Water Team water quality monitor	60%	70%	80%	100%	100%	100%

** Data is not cumulative, but is calculated year by year.

⁵ Prior to the project, no water system collected any form of fee.

⁶ Calculation done only for communities with a CWB established by TSDWP, i.e., 13 out of 29.

PERFORMANCE INDICATOR	INDICATOR DEFINITION	DATA SOURCE	UNIT OF MEASUREMENT	DATA COLLECTION SCHEDULE & STAFF ASSIGNMENT	RESULTS**					
					Target			Actual		
					FY10	FY11	FY12	FY10	FY11	FY12
1.6. Number of improvements to laws, policies, regulations or guidelines related to improved management/operations of rural water supplies	Number of official actions related to improved management/operations of rural water supplies	Official records of GoRT and/or local governments in partner communities Official Gazette of GoRT	Number of official actions taken to improve management/operations of rural water supplies	Quarterly: - For partner communities: TSDWP Community Liaison -For GoRT: Water Team Program Assistant	3	5	3	9	9	9
Task 2: Build capacity among local health officials, community leaders, and the private sector to promote key improved hygiene behaviors and associated products, with a focus on the geographic areas targeted under Objective 1										
2.1 Number of awareness building or training sessions conducted directed at improved knowledge and/or behavior change	Number of training sessions conducted	Training reports	Training sessions conducted	Quarterly: Technical Contract Monitor - Health	62	153	72	1,065	3,862	1,065
2.2. Number of women participating in training sessions	Number of women-participants	Training participant lists	Training participants	Quarterly: Technical Contract Monitor - Health	558	1,377	648	9,799	40,374	17,279
2.3. Number of men participating in training sessions	Number of men -participants	Training participant lists	Training participants	Quarterly: Technical Contract Monitor - Health	558	1,377	648	7,020	33,247	15,116
2.4. Number of people receiving messages to promote hygiene behavior change	Number of citizens of Tajikistan who receive hygiene behavior change messages	CHI, Training participant lists, television stations broadcast coverage reports	Number of citizens receiving messages concerning hygiene behavior change, via training, broadcast media	Quarterly: Technical Contract Monitor - Health -TSDWP Accountant	100,000	200,000	300,000	500,000	2,300,000	2,987,250 ⁷
2.5. Improvements in key hygiene behaviors, including number of households that use optimal hand washing (method and timing)	Number of households who report change in key hygiene behaviors	CHI	Number of households in partner communities that report change in key hygiene behaviors	Quarterly: TSDWP Community Liaison	21,000	48,000	21,000	21,819	75,331	34,022

⁷ This represents the number of people potentially exposed to the media campaigns, as per TV 'catchment area' data. No recall surveys were conducted to verify how many persons actually saw the clips.

PERFORMANCE INDICATOR	INDICATOR DEFINITION	DATA SOURCE	UNIT OF MEASUREMENT	DATA COLLECTION SCHEDULE & STAFF ASSIGNMENT	RESULTS**					
					Target			Actual		
					FY10	FY11	FY12	FY10	FY11	FY12
2.6.Number of sub-awards (grants) to support safe drinking water improvements or health/ hygiene promotion in partner communities	Number of grants	Grant Agreements	Number of grants approved by COTR	Quarterly: TSDWP Grants Coordinator	7	16	7	8	17	4
2.7. Number of beneficiaries of the sub-awards (grants) ⁸	Definition: Number of individual receiving benefits from TSDWP grants	Grant applications	Number of beneficiaries of TSDWP grants	Quarterly: TSDWP Grants Coordinator	7	16	7	14,978	85,181	9,434

⁸ The target was calculated erroneously by the client.

ANNEX 8

MEDIA PUBLICATIONS AND COVERAGE OF TSDWP

<http://centralasia.usaidallnet.gov/press-release/tajikistan/969>

http://dushanbe.usembassy.gov/pr_03012012.html

<http://www.flickr.com/photos/usembassydushanbe/sets/72157629493206575/>

http://www.bbc.co.uk/tajik/institutional/2012/03/120301_sq_ak_sarband.shtml
<http://centralasia.usaidallnet.gov/press-release/tajikistan/969>

http://dushanbe.usembassy.gov/pr_03012012.html

<http://www.flickr.com/photos/usembassydushanbe/sets/72157629493206575/>

http://www.bbc.co.uk/tajik/institutional/2012/03/120301_sq_ak_sarband.shtml

<http://www.news.tj/ru/news/okolo-15-tys-zhitelei-sarbanda-snova-imeyut-dostup-k-chistoi-pitevoi-vode>

<http://www.avesta.tj/sociaty/11381-ssha-pomogli-vosstanovit-sistemu-vodosnabzheniya-v-sarbande.html>

<http://www.khovar.tj/rus/society/31976-zhiteli-sarbanda-obespecheny-pitevoy-vodoy.html>

<http://vecherka.tj/news/zhitelej-sarbanda-na-yuge-tadzhikistana-obespechili-vodoj/>

<http://www.pressa.tj/news/poryadka-15-tys-zhiteley-sarbanda-obespecheny-pitevoy-vodoy>

http://www.toptj.com/News/2012/03/02/zhiteli_sarbanda_obespecheny_pit_evoy_vodoy
<http://news.kob.tj/news/36609>

<http://www.ozodi.tj/content/article/24501573.html>

http://tojnews.org/taj/index.php?option=com_content&task=view&id=23927&Itemid=30

http://www.bbc.co.uk/tajik/institutional/2012/03/120301_sq_ak_sarband.shtml

[http://water-spouts.blogspot.com/2012/03/usaid-opens-safe-drinking-water-](http://water-spouts.blogspot.com/2012/03/usaid-opens-safe-drinking-water-project.html)

[project.html http://news.tj/en/news/u-s-ambassador-opens-safe-drinking-water-project-tursunzoda-district](http://news.tj/en/news/u-s-ambassador-opens-safe-drinking-water-project-tursunzoda-district)

<http://www.youtube.com/watch?v=65NMTccU8kY>

<http://www.youtube.com/watch?v=qBTNrGyRT2s>

<http://www.youtube.com/watch?v=WVr-47mTc4U>

<http://www.facebook.com/media/set/?set=a.10150587299687942.479581.72639402941&type=3>

http://geoidee.ch/doku.php?id=news:second_round_of_gis_training_for_interns_of_tajikistan_s_safe_drinking_water_project_tsdwp

<http://www.youtube.com/watch?v=WVr-47mTc4U>

http://www.mendezengland.com/site/index.php?option=com_content&view=article&id=117&Itemid=59

<http://www.mwr.tj/en/news/50/>

<http://www.mwr.tj/en/news/51/>

<http://www.mwr.tj/en/news/57/>

<http://www.facebook.com/USAID.Central.Asian.Republics>

<http://centralasia.usaid.gov/press-release/tajikistan/1184>

<http://centralasia.usaid.gov/ru/press-release/tadzhikistan/1185>

<http://www.flickr.com/photos/usaidcentralasianrepublics/>

<http://tojnews.org/node/3864> <http://www.news.tj/ru>

<http://www.avesta.tj/sociaty/13879-ssha-pomogli-vosstanovit-sistemu-vodosnabzheniya-v-kishlake-pahtaobod-vahshskogo-rayona.html>

<http://www.pressa.tj/news/ssha-pomogayut-vosstanavlivat-sistemy-vodosnabzheniya-v-selah-tadzhikistana>

<http://centralasia.usaid.gov/press-release/tajikistan/917>

<http://www.timesca.com/index.php/m-news-by-category/social-education-and-health/5631-15000-tajik-people-get-access-to-safe-drinking-water>

<http://www.ocamagazine.com/center-for-safe-drinking-water-solutions-in-dushanbe-t>

TAJIKISTAN SAFE DRINKING WATER PROJECT (TSDWP) MEDIA LINKS

<http://centralasia.usaidallnet.gov/press-release/tajikistan/969>
http://dushanbe.usembassy.gov/pr_03012012.html
<http://www.flickr.com/photos/usembassydushanbe/sets/72157629493206575/>
http://www.bbc.co.uk/tajik/institutional/2012/03/120301_sq_ak_sarband.shtml
<http://www.news.tj/ru/news/okolo-15-tys-zhitelei-sarbanda-snova-imeyut-dostup-k-chistoi-pitevoi-vode>
<http://www.avesta.tj/sociaty/11381-ssha-pomogli-vosstanovit-sistemu-vodosnabzheniya-v-sarbande.html>
<http://www.khovar.tj/rus/society/31976-zhitelei-sarbanda-obespecheny-pitevoy-vodoy.html>
<http://vecherka.tj/news/zhitelej-sarbanda-na-yuge-tadzhikistana-obespechili-vodoj/>
<http://www.pressa.tj/news/poryadka-15-tys-zhiteley-sarbanda-obespecheny-pitevoy-vodoy>
http://www.toptj.com/News/2012/03/02/zhitelei_sarbanda_obespecheny_pit_evoy_vodoy
<http://news.kob.tj/news/36609>
<http://www.ozodi.tj/content/article/24501573.html>
http://tojnews.org/taj/index.php?option=com_content&task=view&id=23927&Itemid=30
http://www.bbc.co.uk/tajik/institutional/2012/03/120301_sq_ak_sarband.shtm
<http://water-spouts.blogspot.com/2012/03/usaid-opens-safe-drinking-water-project.html>
<http://news.tj/en/news/u-s-ambassador-opens-safe-drinking-water-project-tursunzoda-district>
<http://www.youtube.com/watch?v=65NMTccU8kY>
<http://www.youtube.com/watch?v=qBTNrGyRT2s>
<http://www.youtube.com/watch?v=WVr-47mTc4U>
<http://www.facebook.com/media/set/?set=a.10150587299687942.479581.72639402941&type=3>
http://geoidee.ch/doku.php?id=news:second_round_of_gis_training_for_interns_of_tajikistan_s_safe_drinking_water_project_tsdwp
<http://www.youtube.com/watch?v=WVr-47mTc4U>
http://www.mendezengland.com/site/index.php?option=com_content&view=article&id=117&Itemid=59
<http://www.mwr.tj/en/news/50/>
<http://www.mwr.tj/en/news/51/>
<http://www.mwr.tj/en/news/57/>
<http://www.facebook.com/USAID.Central.Asian.Republics>
<http://centralasia.usaid.gov/press-release/tajikistan/1184>
<http://centralasia.usaid.gov/ru/press-release/tadzhikistan/1185>
<http://www.flickr.com/photos/usaidcentralasianrepublics/>
<http://tojnews.org/node/3864>
<http://www.news.tj/ru>
<http://www.avesta.tj/sociaty/13879-ssha-pomogli-vosstanovit-sistemu-vodosnabzheniya-v-kishlake-pahtaobod-vahshskogo-rayona.html>
<http://www.pressa.tj/news/ssha-pomogayut-vosstanavlivat-sistemy-vodosnabzheniya-v-selah-tadzhikistana>
<http://centralasia.usaid.gov/press-release/tajikistan/917>
<http://www.timesca.com/index.php/m-news-by-category/social-education-and-health/5631-15000-tajik-people-get-access-to-safe-drinking-water>
<http://www.ocamagazine.com/center-for-safe-drinking-water-solutions-in-dushanbe-tajikistan>
<http://www.ocamagazine.com/tag/drinking-water-project-tsdwp>
http://transition.usaid.gov/stories/tajikistan/ss_tj_water.html
http://transition.usaid.gov/stories/tajikistan/ss_tj_water.html
http://issuu.com/sixhalfdozen/docs/gw_redesign_22_issuu



Supports Creation Of Center For Safe Drinking Water Solutions (March 31, 2010)

2010 PRESS RELEASES

USAID SUPPORTS CREATION OF CENTER FOR SAFE DRINKING WATER SOLUTIONS IN COOPERATION WITH THE TAJIKISTAN TECHNICAL UNIVERSITY

Dushanbe, Tajikistan - On March 22, the global community celebrated World Water Day 2010, with the motto: "Clean Water for a Healthy World". In this context, USAID supported the creation of the "Center for Safe Drinking Water Solutions" that was officially opened on March 27, 2010. This Center was created cooperatively with the Tajikistan Technical University, and operates within the framework of the "Tajikistan Safe Drinking Water Project" (TSDWP). The Center will provide students from the Department of Water Engineering with practical internships on the development of safe drinking water alternatives. The opening event, hosted by TSDWP, was attended by Mr. Jeffrey Lehrer, USAID Tajikistan Country Director; Ms. Malika Makhkambaeva, USAID Health Project Management Specialist; Mr. Orif Amirov, Dean of the Construction & Architecture Faculty; other members of the teaching faculty and approximately twenty-five students from the Construction & Architecture Faculty of the Tajikistan Technical University (TTU). An "open house" followed at the recently opened offices of the "Tajikistan Safe Drinking Water Project".

The official ceremony began with statements from representatives of the TTU expressing their appreciation for the USAID support and assistance. The university representatives stressed the importance of drinking water supply issues in rural Tajikistan. They also expressed their anticipation of taking part in the new approaches to providing safe drinking water in Tajikistan that the USAID project will develop and apply. TTU representatives emphasized that these innovative approaches will be based on the TSDWP engineers' experience, the introduction of new technologies and techniques to Tajikistan and the practical field efforts of water engineering students of the Technical University.

According to participants, the Center will find safe drinking water solutions for rural communities while simultaneously helping to prepare the next generation of water engineers for Tajikistan. Student interns will assist in actual, practical community projects using state-of-the-art techniques, methods and equipment provided by TSDWP. These activities will prepare the student interns for their eventual professional assignments and will increase access to safe drinking water and improve health and hygiene in the rural communities of Tajikistan served by the Project.

The ceremony included an official signing of a Statement of Cooperation, a traditional ribbon cutting/opening and a brief demonstration of some of the advanced technologies available at the center. The center will accommodate up to eight (8) students at one time, and will offer training and practical experience using a wide range of modern engineering tools and techniques such as advanced water engineering and modeling software, ferro-magnetic & inductive pipe location and ultrasonic leak detection equipment, ultrasonic flow meters, and water quality testing equipment. Next, the center will make the final selection of the first group of water engineering interns and commencement of the internship program.

USAID Country Director Jeffery Lehrer stated, "we are very pleased to be cooperating with the Tajikistan Technical University in preparing the next generation of water engineers to use state-of-the-art technology to help provide safe drinking water to rural communities across Tajikistan".

The Tajikistan Safe Drinking Water Project, is one of the many development projects supported in Tajikistan by the United States Agency for International Development. Since 1992, the American people through the U.S. Embassy in Dushanbe have provided about \$900 million in programs that support Tajikistan's democratic institutions, health care, education, and economic growth.

Photos provided by the U.S. Department of State.

Summary of articles about Centre for Safe Drinking Water Solutions

Dushanbe, March 30, 2010, Asia Plus

Date	Place	Source	Title
March 30, 2010	Dushanbe, Tajikistan	Asia Plus	Centre for Safe Drinking Water Solutions created in Tajikistan
March 31, 2010	Warrenton VA, USA	OOSKA News, Weekly Water Report, Vol 3, Issue 13	Centre for Safe Drinking Water Solutions opened
March 30, 2010	Dushanbe, Tajikistan	News.tj	Centre for Safe Drinking Water Solutions created in Tajikistan
March 31, 2010	Dushanbe, Tajikistan	U.S. Embassy in Dushanbe, Tajikistan , Public Affairs Section, Press Releases and Washington File Distribution	USAID SUPPORTS CREATION OF CENTER FOR SAFE DRINKING WATER SOLUTIONS IN COOPERATION WITH THE TAJIKISTAN TECHNICAL UNIVERSITY
31 Марта, 2010 г	Душанбе, Таджикистан	TopTJ.com Information portal	В РТ открылся Центр по решению проблемы обеспечения питьевой водой
29 Марта, 2010 г	Душанбе, Таджикистан	Arian.su, news portal	"Центр по решению проблемы обеспечения питьевой воды"
30 марта, 2010 г	Душанбе, Таджикистан	НИАТ «Ховар»	В ДУШАНБЕ СОЗДАН «ЦЕНТР ПО РЕШЕНИЮ ПРОБЛЕМЫ ОБЕСПЕЧЕНИЯ ПИТЬЕВОЙ ВОДОЙ»

Weekly Water Report

MARCH 31, 2010, VOL. 3 ISSUE 13



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- 7 World Bank to Start Rogun Examination in April

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- Published by OOSKANews, Inc.
1700 West 10th Avenue, Suite 100
USA - 20155

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Center for Safe Drinking Water Solutions Opened

DUSHANBE

The U.S. Agency for Interna-

tional Development-supported Center for Safe Drinking Water Solutions was officially opened in Tajikistan on March 27, 2010.

The center was created cooperatively with the Tajikistan

Technical University. It operates within the framework of the Tajikistan Safe Drinking Water Project (TSDWP).

The goal is to provide students from the Department of Water Engineering with practical

internships on development of safe drinking water alternatives.

The center will work on finding safe drinking water solutions for rural communities using student interns, who will

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benefit from practical experience.

The center will accommodate up to eight students at a time.

It will offer training and practical experience.

"We are very pleased to be cooperating with the Tajikistan Technical University in

preparing the next generation of water engineers to use state-of-the-art technology to help provide safe drinking water to rural communities across Tajikistan," said

USAID Country Director Jeffery Lehrer.

Source: U.S. Embassy in Tajikistan