

# **Using water purification systems in response to acute watery diarrhea**

## **FINDINGS OF A FIRST ROUND AND SECOND ROUND RAPID SURVEY IN ACUTE WATERY DIARRHEA AFFECTED WOREDAS IN OROMIYA REGIONAL STATE AND SNNPR STATE**

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## ACRONYMS

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|        |                                                  |
|--------|--------------------------------------------------|
| AIDS   | Acquired Immune Deficiency Syndrome              |
| AWD    | Acute Watery Diarrhea                            |
| BCC    | Behavior Change Communication                    |
| CDC    | Centers for Disease Control and Prevention       |
| CHP    | Community Health Promoter                        |
| CTC    | Case Treatment Centers                           |
| DA     | Development Agents                               |
| DPPB   | Disaster Prevention and Preparedness Bureau      |
| IEC    | Information, Education and Communication         |
| FGD    | Focus Group Discussions                          |
| HIV    | Human Immunodeficiency Virus                     |
| LQAS   | Lot Quality Assurance Sampling                   |
| MoH    | Ministry of Health                               |
| MoWR   | Ministry Of Water Resources                      |
| NGO    | Non Government Organizations                     |
| PSI    | Population Service International                 |
| PUR    | PUR- Purifier of Water                           |
| SNNPR  | Southern Nation Nationalities and Peoples Region |
| SWS    | Safe Water System                                |
| TBA    | Trained Birth Attendant                          |
| TraC-M | Tracking Results Continuously – Monitoring       |

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## 1.0 EXECUTIVE SUMMARY

In October 2006 Population Services International (PSI)/Ethiopia received funding from the Humanitarian Response Fund administered by UN OCHA to significantly scale up its existing responses to the acute watery diarrhea (AWD) outbreak affecting parts of Oromiya and Southern Nations, Nationalities and Peoples Region (SNNPR). The response focused on the prevention of diarrhea through communication about hygiene and water purification; the provision of free water purification products; and included a strong capacity building component through training of local health officials and community agents. There is also a built in exit strategy to leave the communities with access to water purification products through the commercial sector after the emergency is ended

During the implementation, PSI/Ethiopia conducted two rounds of a rapid household survey with respect to AWD, household water treatment and sanitation & hygiene practices in three areas. The survey methodology used a Lot Quality Assurance Sampling (LQAS) technique, described in more detail in the methodology section below. Due to the prioritization of humanitarian response in the face of the emergency, the first round survey in two of the areas (Shakiso/Liben/Meda Welabu, and Kore – both in Oromiya) was conducted after the intervention had begun, while that in the third area (Angatcha/Hulla in SNNPR) was conducted just prior to the intervention. A second round survey was conducted three months later. The difference of the first round and the second round study is the difference between the immediate effect after the emergency projects and the effect and impact three months later (in Oromiya) or the difference between pre- and post intervention in SNNPR. All the respondents in the first round survey and the second round survey were women between the ages of 15-40 years of age. In addition, ten focus group discussions were held at the end of the first round survey to gain some additional qualitative data on the community's responses to the project.

The survey indicates that the primary objective of the project, to increase the use of water purification products that can prevent the spread of water-borne AWD was reasonably successful. The product in question, *WaterGuard*, is used by relatively high number of people, there is confidence in the product (respondents considered *WaterGuard* to be effective) and some specific knowledge objectives about water treatment and hand washing seemed to be achieved. The focus groups provided additional information that the projects and campaigns were well targeted and well executed. On the other hand however, many specific messages about AWD itself, including the severity and seriousness of diarrhea are still underestimated and some specific knowledge objectives with respect to issues causing diarrhea and diarrhea treatment (rehydration etc.) have not been satisfactorily achieved yet, and future interventions will have to be adapted to improve those elements of implementation.

The survey indicates that while the product was given out for free at the beginning of the project, by the end, many people were purchasing the product, which implies that there will be a good potential for sustainability of use of the product after the end of the project. A large number of the women surveyed indicated that they received messages about AWD and water treatment from community agents and from friends in their local languages, and more than two thirds in the Oromiya region and nearly half in SNNPR had seen the counseling cards provided by PSI/Ethiopia. Around a third of women in Oromiya, and 60 percent in SNNPR reported seeing the mobile roadshow that went from town to town promoting AWD messages during the period.

One less satisfactory finding of the focus groups survey was that the retail price of *WaterGuard* in local shops had risen significantly beyond the recommended retail price of the product of Birr 1.5 per bottle. This has resulted from the excessive demand created by the project, while PSI/Ethiopia had focused its efforts on ensuring free distribution to AWD affected areas. In the longer term, when full commercial distribution gets underway in these areas, the increase in supply to match demand, as well as competition between retailers, will ensure retail prices will reduce to the recommended level.

Summary of Main findings - first round survey:

- The vast majority of those interviewed responded that they had heard of AWD. Knowledge of and exposure to messages on AWD and water treatment varied, with Shakiso/Liben/Meda Welabu having more knowledge and exposure compared to Kore and especially SNNPR. Messages were in the people's own language and generally received from community workers, friends/relatives and health centers/posts. The most common messages recalled related to contaminated water causing AWD and treating water with *WaterGuard* getting rid of germs. Many other messages were less well known.
- During the dry season ('birra') in which the study was conducted, respondents indicated that they receive their (drinking) water from a variety of sources, though the main source of drinking water during the rainy season in all areas is rivers. The vast majority of households are collecting water from unprotected sources.
- There was a wider coverage of *WaterGuard* in Kore than Shakiso/Liben/Meda Welabu and SNNPR. 70% of women in Kore mention the availability of *WaterGuard* as did 40% of women in both Shakiso/Liben/Meda Welabu and SNNPR.
- The knowledge of the greater vulnerability of children under five to diarrhea varied. Except for the causing effect of contaminated water most other knowledge indicators were poor. However, almost all women in all three supervision areas thought diarrhea is preventable, an important factor in adopting preventative behaviors.
- Practically all respondents agreed that diarrhea is a major problem in their community and that it can be fatal if their hygiene and water quality is compromised.
- Women in Shakiso/Liben/Meda Welabu and Kore reported that they were using *WaterGuard* relatively consistently for treating of their water before consumption. Actual use in SNNPR wasn't widely observed among the respondents. Hardly anybody had paid for receiving *WaterGuard* in the three supervision areas.
- Diarrhea treatment practices appeared weak in all three supervision areas. There is not one single type of fluid that is common for the women to give to family members with diarrhea. Also, there is no common practice with respect to drinking and eating for people with diarrhea. Some people eat and drink less, which is considered not a good practice, while others drink and eat around the same amount, rather than taking on additional foods or fluids.
- Regarding general hygienic behavior and practice, almost all women in Shakiso/Liben/Meda Welabu and Kore and over half of the women in SNNPR store their drinking water in a narrow mouth container/jerry can. Washing hands is predominantly associated with eating, though it is not a common practice after going to the toilet. Around half of the families of the interviewed women have no sanitary facilities available to them. The other half is using a traditional pit latrine (either covered or uncovered). Improved sanitation is non-existent.

Summary of Main findings - second round survey:

- The results of the second round survey were similar to the results of the first round survey in Oromiya. This could be expected as a result of the fact that no significant new campaigns/projects had taken place in between the first and second round survey. Also expected, was the (slight) increase in messages heard, knowledge, behavior and use of *WaterGuard* in SNNPR after the introduction of the product and associated campaigns.
- The amount of women that had seen the PSI/Ethiopia community cards increased, now also around half of the women in SNNPR had seen these cards. Also, one third to more than half of the women had seen the PSI/Ethiopia road show. Both figures are encouraging.
- There was high availability of *WaterGuard* reported in all three communities. At least three quarters of women in all three areas said *WaterGuard* was easily available during the second round survey. This is a satisfactory increase compared to the first round survey and therefore one of the successes of the emergency projects and campaigns of PSI/Ethiopia and others.

- It is encouraging that fewer women in all three supervision areas thought that clear water is safe to drink. In the second round, only around a third to half of the women in all three areas thought this was the case.
- It is a concern that fewer female respondents in the second round survey had the opinion that diarrhea is severe compared to the first round survey. Especially in Kore this is the case but also in both Shakiso/Liben/Meda Welabu and SNNPR this was observed.
- There were high sustained levels of *WaterGuard* in all three areas. The amount of women that had chemical treatments in their house at the day of the interview has slightly dropped in Oromiya to around a half to three quarters of women, still relatively high three months after the end of the emergency project. In SNNPR now almost all women had chemical treatments in their house compared to less than half during the first round survey.
- Improvements in behavior with respect to reported hand washing practices were seen in all three areas.

## 2.0 INTRODUCTION

In April 2006, cases of Acute Watery Diarrhea (AWD) were first reported in the Gambella region. Similar cases were reported at the end of June 2006 from West Arsi Zone of Oromiya Region, which harbors one of the busiest business centers, the town of Shashemene. By the end of 2006, a total of 32,546 cases and 388 deaths were reported from five regions (Oromiya, SNNPR, Tigray, Afar, Somali and Addis Ababa Administrative Council).

A National Task Force comprising of the Ministry of Health and various international organizations including UNICEF, the WHO, NGOs and donors was formed to analyze and monitor the problem, mobilize resources and coordinating the different activities undertaken by all stakeholders in the respective regions. PSI/Ethiopia, which is also member of the National Task Force, was awarded a grant from UNOCHA to significantly scale up its existing response to the AWD outbreak in West Arsi Zone, Southern Oromiya and extend its intervention to cover new sites in SNNPR that have been declared to be affected by AWD.

A joint assessment team led by the Government of Ethiopia and other pertinent UN bodies at West Arsi province came up with some gaps and recommended solutions to mitigate the epidemic. The findings highlighted the need to scale up household water purification products to be distributed for these communities, a mass media support in local language, and increasing skills and knowledge of identified Community agents on improved sanitation and hygiene practice, diarrhea disease treatments, prevention and benefits of using water treatment products.

As a result of the assessment a project was implemented. This project identified with zonal and Woreda Bureaus such as DPPB, MoH, MoWR up to 100 most affected Kebeles in SNNPR and Oromiya, trained 973 Community agents <sup>1</sup>(433 in Oromiya and 540 in SNNPR, around 10 from each affected Kebele) on safe hygienic and sanitation practices and the benefits of household water treatments products. A total of 319,600 bottles of *WaterGuard* was freely supplied and distributed by trained Community Agents in the two regions (106,000 in Oromiya and 213,600 in SNNPR), enough to treat around 320 million liters of water. A further 80,400 bottles of *WaterGuard* were distributed to the commercial market towards the end of the emergency project in order to create some sustainability after the project. Most households were supplied with two bottles of *WaterGuard*, enough to treat up to 2,000 liters of water, which should significantly reduce the risk of diarrhea over a three-month period.

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<sup>1</sup> Team composition of Community agents are Community Health Promoters, Development Agents, Traditional Birth Attendants, Chairman and vice Chairman of respective Kebeles

Household water treatment interventions, including the *WaterGuard* product, have been shown to be safe and effective in reducing diarrhea diseases among children under five and among people living with HIV/AIDS. Multiple field trials conducted by the CDC in Atlanta from several countries have shown a 25-85% reduction in diarrhea disease incidence when household water treatments are used correctly. Prior to the introduction of the *WaterGuard* product in Ethiopia, in 2004, the CDC conducted an assessment mission that included water testing in West Arsi and Sidama zone of SNNPR. The mission concluded that the *WaterGuard* product is effective for most water sources available in the region.

The most important part of the implementation of this program was that affected areas and target beneficiaries of this program were successfully prioritized and identified in order to deliver freely donated *WaterGuard* products at a reasonable distance in their surroundings. Prior the distribution of these products trained community volunteer equipped with accurate information and effective communication materials educated the communities by also using the same pictorial diagrams which are designed as a 'story teller' approach about the disease sign & symptoms, prevention, general hygiene and sanitation, use and usage of *WaterGuard* at central distribution spot.

To reinforce and create increased knowledge of the program, PSI/Ethiopia has developed a mass media campaign and a mobile awareness raising team according to the context of the two operational areas.

PSI/Ethiopia not only participated in the emergency response projects, but also conducted a first round survey with respect to AWD, household water treatment and sanitation & hygiene practices. The survey is called a first round survey because it was the first PSI/Ethiopia survey with respect to AWD in these areas. The survey isn't called a base line survey, because technically the survey isn't a true base line as a result of the fact that in two out of the three survey areas this survey was conducted right after the emergency response during which *WaterGuard* was distributed among other things. Only in SNNPR the first round survey was a true base line survey. Furthermore, PSI/Ethiopia also conducted a second round survey a few months later. In this report the outcomes of both the first round and the second round survey will be presented. The difference of the first round and the second round study is the difference between the immediate effect after the emergency projects and the effect and impact three months later. The first round survey was conducted in December 2006 and the second round survey was conducted in March/April 2007.

### **3.0 STUDY OBJECTIVES**

In this report the objectives of the first round and second round survey will be tackled. PSI/Ethiopia identified five main objectives with respect to this study project:

- To gain an estimate of the coverage, reach, consistency of Household Water Treatment products and sanitation & hygiene practices.
- To gain an insight about the change in motivation, knowledge, exposure, message diffused through the program.
- To determine the level and availability of *WaterGuard* coverage and compare across supervision areas.
- In the context of current and ongoing activities, determine the likely additional needs of targeted beneficiaries in terms of water treatments products in the future.

- To prepare evidence based specifically targeted recommendations for future actions, future communication campaigns etc.

## **4.0 SURVEY METHODOLOGY**

### **4.1 TRaC-M**

This survey is based on an approach developed by PSI called Tracking Results Continuously (TRaC), which is designed to provide rapid feedback and monitoring tools to management. This survey focuses on the monitoring part of the TRaC survey, called TRaC-M, a new approach developed by PSI specifically for measuring the exposure and recall of messages diffused through behavior change communication (BCC) methods. Information regarding campaign exposure (coverage) is important and allows programmers to rapidly decide if it is necessary to continue to promote certain educational messages or if an appropriate level of saturation has already been achieved. More traditional studies, like Knowledge, Attitude and Practice (KAP) surveys, are usually too lengthy and costly to provide such timely information to programmers. These studies are also better adapted for measuring behavior change. Oftentimes, the duration of campaigns is too short for exposure questions to be included on a KAP or the dissemination of campaigns does not coincide with KAP data collection.

Therefore, PSI developed a simpler methodology that uses Lot Quality Assurance Sampling (LQAS) techniques to provide rapid feedback about the proportion of a target population reached by a campaign. This TRaC-M strategy substantially reduces the cost of study implementation and provides quick feedback to programmers about exposure and message retention.

One of the limitations of the survey methodology is that it only provides results within 90% confidence intervals, and as a result, percentages in tables are only presented to the nearest 5% interval. The percentage given is the number that responded positively to the question asked.

### **4.2 Study Sample**

LQAS sampling techniques were used to randomly select a sample of 19 people in each geographic supervision zone. In order to identify study respondents, a two-stage sampling methodology was used. Supervision areas were selected for the first stage of sampling.

Supervision areas were defined by geographic proximity, and a total of three supervision areas of roughly equal size and population were identified, covering Kebeles targeted by the project in SNNPR and Oromiya.

LQAS methodology requires at least 19 sites in each supervisory area. In the first stage of sampling, out of 30 Kebeles identified from the first supervisory area, 19 Kebeles were selected randomly. The sampling interval was calculated by dividing the estimated total population of the first supervision area by 19. The population data used came from the Woreda Council during field visiting at these sites. A random number between zero and the sampling interval was drawn to determine the first Kebele and the sampling interval was then systematically added to the cumulative population until the designated 19 Kebeles were determined (10 from Shakiso, 5 from Liben, 4 from Meda Welabu). Similarly, for Kore Woreda, out of twenty-one Kebeles 19 Kebeles were selected using the same procedure.

In stage two of the sampling, selected Kebeles were further subdivided into villages and then sub village ('giree'/ 'gote'/...) having 25-30 households controlled and managed by a person known as 'Abaolla'. 19 respondents were selected randomly using random number tables. The total sample size was  $19 \times 3 = 57$  households.

For the second round survey, a different set of  $19 \times 3 = 57$  households was randomly selected in exactly the same manner.

### 4.3 Data Collection Instruments

The questionnaire for evaluating the first round was the principle data collection instrument used in this study. It contained questions about water use and sources, hygienic practices including hand washing, water storage, and sanitation facilities, as well as behavioral determinants for the use of water purification systems. Questions were also asked on exposure to messages about AWD and water purification. In addition, secondary data from the Woreda Health Bureau and focus group discussions held with some of the inhabitants in some of the supervisory areas helped to compare and contrast current epidemic case load, changes in knowledge of the community before and after the start up of the program and future needs and aspiration of the targeted beneficiaries. The questionnaire for the second round survey was almost identical to the first round questionnaire, the differences were that a few questions were left out of the second round questionnaire and a few questions were added. Questions in both rounds were framed as that respondents were required to give answer either “yes” or no”.

### 4.4 Data Collection and Management

The first round survey was conducted between 30 November and 24 December 2006, with the focus groups held in the same period. The second round survey was conducted between 20 March and 4 April 2007. Most of the questionnaires were collected by data collectors and closely supervised by the Emergency Program Coordinator. The sequence of programme implementation and surveys is summarized as follows:

| Area                                                        | Training          | Product Distribution | Mobile Roadshow | First Round Survey | Second Round Survey |
|-------------------------------------------------------------|-------------------|----------------------|-----------------|--------------------|---------------------|
| Supervision area one: Shakiso/ Liben/ Meda Welabu (Oromiya) | Oct/Nov '06       | Nov '06              | Dec '06         | Dec '06            | Mar '07             |
| Supervision area two: Kore (Oromiya)                        | Nov '06           | Nov '06              | Dec '06         | Dec '06            | Mar '07             |
| Supervision area three: Hulla/ Angatcha (SNNPR)             | Nov '06 – Jan '07 | Dec '06 – Jan '07    | Jan '07         | Dec '06            | April '07           |

The AWD and water treatment questionnaire and the focus group discussion questionnaire were analyzed and tabulated with SPSS software and Microsoft Excel to calculate frequencies and weighted averages.

### 4.5 Description of Sample Population

All the respondents in the first round survey and the second round survey were women between the ages of 15-40 years of age. To compare and contrast the results from the first round survey some 10-15 community inhabitants from the selected Kebeles were selected for Focus Group Discussions. The majority of people in these groups were also women of 15-40 years of age but also some elders and religious leaders were included in the focus groups.

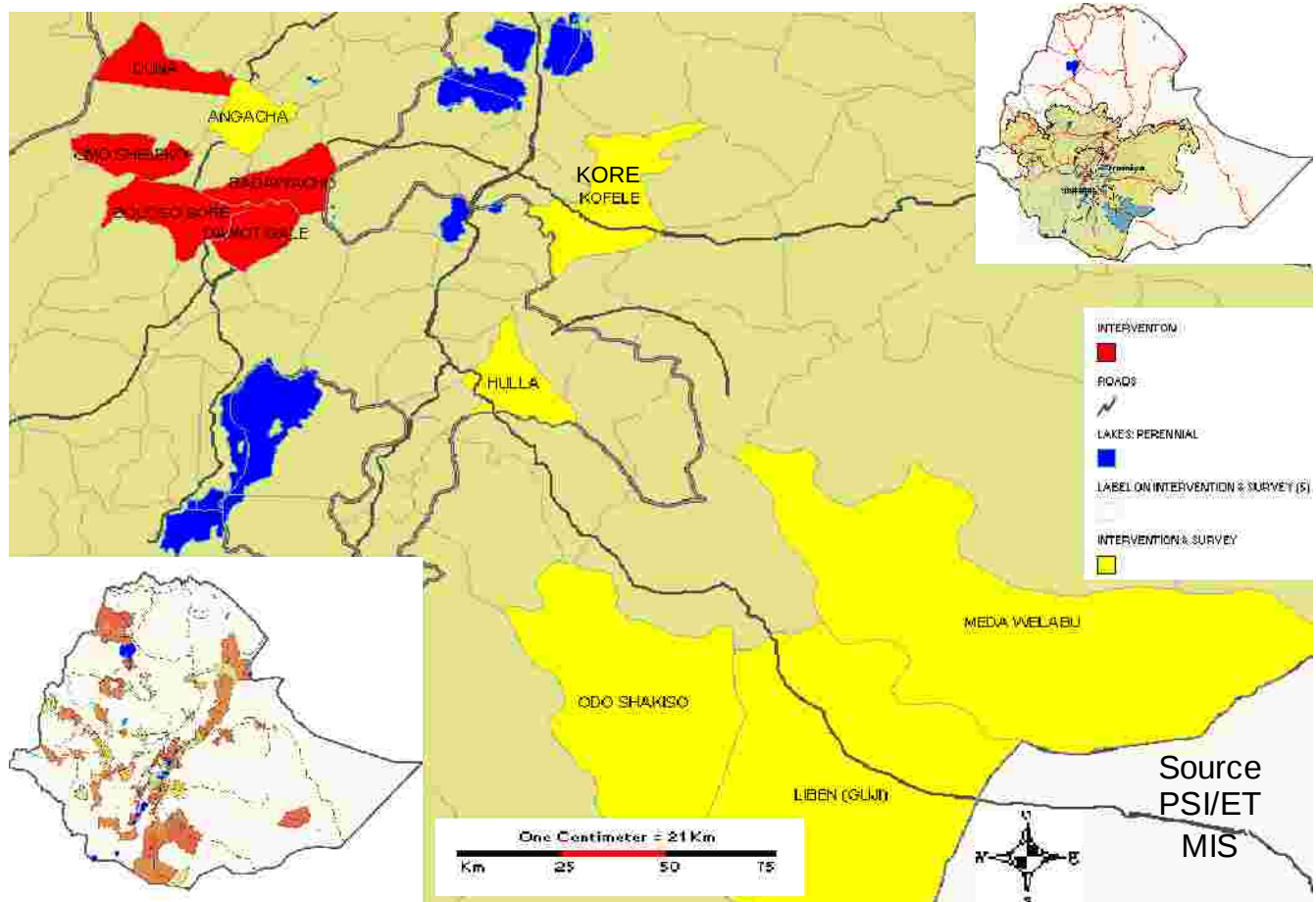
## 5.0 SURVEY SUPERVISION SITES

Two of the supervisory areas are found within Oromiya Region, the third in SNNPR. Intervention areas were combined into 'supervision' areas that would allow comparisons to be made concerning the effectiveness of interventions between the supervision areas. For practical reasons, not all of the intervention areas in SNNPR were included in the survey.

- Supervision area 1: This supervisory area consists of three Woredas, Meda Welabu (population: 103,015) in Bale Zone, and Liben (population 153,243) and Shakiso (population 123,456) Woredas, both in Guji zone.
- Supervision area 2: Kore Woreda (formerly known as Koffele Woreda, population 48,973 in the newly defined Zone of West Arsi, Oromiya.
- Supervision area 3: This supervisory area consists of two Woredas, Angatcha Woreda (population 104,729), in Kembata and Temabara Zone (northern part of SNNPR), and Hulla Woreda (population 123,375), in Sidama Zone (eastern part of SNNPR).

### Map showing intervention sites in Oromiya and SNNPR:

Areas in red represent intervention sites that were not included in the survey evaluation. Note also that the Map in the bottom left hand corner shows national distribution of WaterGuard, including other non-UN OCHA funded activities.



## 6.0 SURVEY RESULTS

### 6.1 Exposure to diarrhea and water treatments interventions

The vast majority of those interviewed responded that they had heard of AWD. Knowledge of and exposure to messages on AWD and water treatment varies, with Shakiso/Liben/Meda Welabu having more knowledge and exposure compared to Kore and especially SNNPR (probably because this is a first round survey for SNNPR and the area had no previous exposure to products and campaigns). Messages are in the people's own language and are generally received from community workers, friends/relatives and health centers/posts. The most common messages relate to contaminated water causing AWD and treating water with *WaterGuard* to get rid of germs. Many other messages are not well known and need to be reinforced in the future.

Almost all women in Shakiso/Liben/Meda Welabu and Kore have heard of AWD and water treatments during the last six months before the first round survey while in SNNPR just over half of the women have heard these types of messages during this period of time. Quite a number of messages have been heard by at least a quarter of women in Shakiso/Liben/Meda Welabu. In Kore and SNNPR fewer messages have been heard. Half or more of the women in all three areas have heard the message that AWD is caused by contaminated water as well as the message about treating water with *WaterGuard* for getting rid of germs. Furthermore, over half of the women in Shakiso/Liben/Meda Welabu and Kore have heard the message that AWD is caused by poor hygiene (in SNNPR only a third of the women have heard this message). Finally, around a quarter of women have heard messages about contaminated food causing AWD, use of latrine preventing AWD, other messages about *WaterGuard*, and messages about boiling of water.

Around a quarter to half of the women in all three areas have heard these AWD and water treatment messages through community workers, friends/relatives and health centers/posts. Furthermore some women in Shakiso/Liben/Meda Welabu and Kore have heard messages through brochures/leaflets and some women in Shakiso/Liben/Meda Welabu have heard radio messages. Almost all women got the information in their own language.

Almost all women in Shakiso/Liben/Meda Welabu and half of the women in Kore have seen the PSI/Ethiopia community cards; however no women in SNNPR have seen these cards because there hasn't been a previous campaign in this area.

More women in SNNPR have heard of AWD and of water treatment messages. In general, a little bit more women in all three areas have heard a greater number of messages compared to the first round survey. However, the large majority of messages still have not been heard by the majority of women.

There is a small increase in the percentages of women that have heard messages about both AWD and water treatments from community workers, friends/relatives and health centers/posts. Furthermore, now around a quarter of women in all three areas have heard both kinds of messages on the radio and around a quarter of women in Shakiso/Liben/Meda Welabu have seen billboards with AWD messages only.

The amount of women that have seen the PSI/Ethiopia community cards has been increased, now also around half of the women in SNNPR have seen these cards. One third to more than half of the women have seen the PSI/Ethiopia road show.

**Table 1: exposure to AWD and diarrhea messages**

|                                                                                                       |                                                                            | Supervisory Area                           |                       |                      |                       |                               |                       |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------|-----------------------|----------------------|-----------------------|-------------------------------|-----------------------|
|                                                                                                       |                                                                            | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) |                       | Kore<br>(Oromiya)    |                       | Hulla/<br>Angatcha<br>(SNNPR) |                       |
|                                                                                                       |                                                                            | Baseline %<br>(N=19)                       | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19)          | Follow up %<br>(N=19) |
| Do you know about AWD?                                                                                |                                                                            | >95%                                       | >95%                  | >95%                 | >95%                  | >95%                          | >95%                  |
| Have you heard about AWD in the past 6 months?                                                        |                                                                            | >95%                                       | >95%                  | >95%                 | >95%                  | 55%                           | 65%                   |
| What messages have you heard about AWD?                                                               |                                                                            |                                            |                       |                      |                       |                               |                       |
| Messages regarding Severity                                                                           | AWD is serious<br>Diarrhea causes dehydration that can lead to death       | 45%<br>25%                                 | 60%<br>25%            | <20%<br>20%          | 25%<br>40%            | 55%<br><20%                   | 50%<br><20%           |
| Messages Regarding causes of AWD                                                                      | AWD can be caused by contaminated food                                     | 35%                                        | 65%                   | 45%                  | 65%                   | 25%                           | 40%                   |
|                                                                                                       | AWD can be caused by contaminated water                                    | 70%                                        | 70%                   | 55%                  | 75%                   | 50%                           | 45%                   |
|                                                                                                       | AWD can be caused by poor hygiene                                          | 60%                                        | 75%                   | 55%                  | 55%                   | 35%                           | 30%                   |
|                                                                                                       | AWD can be caused by eating raw food                                       | <20%                                       | 25%                   | 30%                  | 25%                   | <20%                          | <20%                  |
| Messages Regarding Preventing AWD                                                                     | Use of latrines can help prevent AWD                                       | 40%                                        | 25%                   | 25%                  | 25%                   | 20%                           | 20%                   |
|                                                                                                       | In the absence of a latrine, containing faeces can help prevent AWD        | 20%                                        | <20%                  | 20%                  | <20%                  | <20%                          | <20%                  |
|                                                                                                       | Washing hands with soap can help prevent AWD                               | 55%                                        | 25%                   | <20%                 | 20%                   | <20%                          | <20%                  |
|                                                                                                       | Washing hands with ash can help prevent AWD                                | 25%                                        | 20%                   | <20%                 | 20%                   | <20%                          | <20%                  |
| Messages Regarding Water Quality                                                                      | Clear water can contain harmful germs that can't be seen                   | 40%                                        | 25%                   | 20%                  | 20%                   | <20%                          | 30%                   |
|                                                                                                       | Water must be stored carefully and covered well                            | 30%                                        | 25%                   | 20%                  | 30%                   | <20%                          | <20%                  |
|                                                                                                       | Water should be stored in clean, closed mouth containers.                  | 40%                                        | 20%                   | 25%                  | 20%                   | <20%                          | <20%                  |
| Where have you heard messages about preventing diarrhea diseases in the past six months?              | Community workers                                                          | 40%                                        | 60%                   | 60%                  | 55%                   | 40%                           | 40%                   |
|                                                                                                       | Health centers / posts                                                     | 40%                                        | 50%                   | 25%                  | 75%                   | 25%                           | 40%                   |
|                                                                                                       | Friends / relatives                                                        | 55%                                        | 75%                   | 35%                  | 45%                   | 45%                           | 40%                   |
|                                                                                                       | Brochures / leaflets                                                       | 20%                                        | 30%                   | 20%                  | <20%                  | <20%                          | 20%                   |
|                                                                                                       | Billboard                                                                  | <20%                                       | 20%                   | <20%                 | <20%                  | <20%                          | 20%                   |
|                                                                                                       | Radio                                                                      | 40%                                        | 25%                   | <20%                 | 25%                   | <20%                          | 35%                   |
|                                                                                                       | TV                                                                         | <20%                                       | <20%                  | <20%                 | <20%                  | <20%                          | <20%                  |
|                                                                                                       | Other                                                                      | <20%                                       | <20%                  | <20%                 | <20%                  | <20%                          | <20%                  |
| Did you get the information in your local language?                                                   |                                                                            | >95%                                       | >95%                  | >95%                 | >95%                  | 70%                           | 80%                   |
| Have you ever received any information about how to treat your drinking water in the past six months? |                                                                            | >95%                                       | >95%                  | 80%                  | 95%                   | 55%                           | 60%                   |
| What messages have you heard about treating drinking water?                                           | Treating water with <i>WaterGuard</i> gets rid of germs                    | 80%                                        | 50%                   | 50%                  | 60%                   | 45%                           | 60%                   |
|                                                                                                       | <i>WaterGuard</i> is easy to use                                           | 40%                                        | 35%                   | <20%                 | 40%                   | <20%                          | 25%                   |
|                                                                                                       | One capful of <i>WaterGuard</i> treats 20 liters of water                  | 45%                                        | 80%                   | 60%                  | 75%                   | <20%                          | 40%                   |
|                                                                                                       | Different water sources may require different dosages of <i>WaterGuard</i> | <20%                                       | 30%                   | <20%                 | 35%                   | <20%                          | 25%                   |
|                                                                                                       | One bottle of <i>WaterGuard</i> will last for at least one month           | <20%                                       | 30%                   | 20%                  | 30%                   | <20%                          | <20%                  |
|                                                                                                       | Use <i>WaterGuard</i> every day                                            | 40%                                        | 30%                   | 25%                  | 30%                   | 20%                           | <20%                  |
|                                                                                                       | Others (treating water by boiling of water)                                | 25%                                        | 20%                   | 40%                  | 20%                   | 35%                           | 20%                   |
| Where have you heard messages about treating drinking water in the                                    | Community workers                                                          | 75%                                        | 65%                   | 65%                  | 60%                   | 35%                           | 20%                   |
|                                                                                                       | Health centers / posts                                                     | 35%                                        | 55%                   | 25%                  | 75%                   | 35%                           | 40%                   |
|                                                                                                       | Friends / relatives                                                        | 35%                                        | 70%                   | 25%                  | 50%                   | 30%                           | 20%                   |
|                                                                                                       | Brochures / leaflets                                                       | 20%                                        | 25%                   | <20%                 | 20%                   | <20%                          | <20%                  |

|                                                                                                                 |           |      |      |      |      |      |      |
|-----------------------------------------------------------------------------------------------------------------|-----------|------|------|------|------|------|------|
| past six months?                                                                                                | Billboard | <20% | <20% | <20% | <20% | <20% | <20% |
|                                                                                                                 | Radio     | 20%  | 30%  | 20%  | 20%  | <20% | 20%  |
|                                                                                                                 | TV        | <20% | <20% | <20% | <20% | <20% | <20% |
|                                                                                                                 | Other     | 25%  | 20%  | 35%  | 20%  | <20% | 20%  |
| Was all or some of this information in your local language?                                                     |           | >95% | >95% | >95% | >95% | >95% | 70%  |
| Have you seen these community cards? (the respondent was shown the AWD counseling cards used under the project) |           | 85%  | 75%  | 50%  | 75%  | <20% | 45%  |
| Have you seen the PSI/Ethiopia Mobile Road show?                                                                |           | n/a  | 35%  | n/a  | 40%  | n/a  | 60%  |

Table 1 (cont): exposure to AWD and diarrhea messages

## 6.2 General questions on water use and sources

During the dry season ('birra') in which the study was conducted, most respondents in Shakiso/Liben/Meda Welabu and Kore indicated that they receive their (drinking) water from a variety of sources such as rivers, ponds/lakes, public taps/standpipes and unprotected wells/pumps (all used by at least a quarter of women). The main sources of drinking water during the dry season in SNNPR are rivers, public taps/standpipes, unprotected wells/pumps and protected springs and protected wells (all used by around a quarter of women). The main source of drinking water during the rainy season in all areas is rivers (used by 50% to 75% of women). Furthermore, the sources of the respondents in all three areas are similar to the dry season. The conclusion can be drawn that the vast majority of households are collecting water from unprotected sources for which no payment needs to be made.

**Table 2: water sources**

|                                                                                                 |                         | Supervisory Area                                          |                                  |                                              |
|-------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------|----------------------------------|----------------------------------------------|
|                                                                                                 |                         | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya)<br>(n=19)<br>% | Kore<br>(Oromiya)<br>(n=19)<br>% | Hulla/<br>Angatcha<br>(SNNPR)<br>(n=19)<br>% |
| What are the main sources of drinking water for your household during the <b>dry</b> season?    | Piped into dwelling     | 20%                                                       | <20%                             | <20%                                         |
|                                                                                                 | Public tap / standpipe  | 25%                                                       | 30%                              | 40%                                          |
|                                                                                                 | Protected spring        | <20%                                                      | <20%                             | 25%                                          |
|                                                                                                 | Protected well          | <20%                                                      | 20%                              | 20%                                          |
|                                                                                                 | Unprotected well / pump | 35%                                                       | 30%                              | 20%                                          |
|                                                                                                 | Rain water / burka      | <20%                                                      | <20%                             | <20%                                         |
|                                                                                                 | River                   | 55%                                                       | 50%                              | 30%                                          |
|                                                                                                 | Pond / lake             | 30%                                                       | 20%                              | <20%                                         |
| What are your main sources of drinking water for your household during the <b>rainy</b> season? | Piped into dwelling     | <20%                                                      | <20%                             | <20%                                         |
|                                                                                                 | Piped into yard         | <20%                                                      | 20%                              | <20%                                         |
|                                                                                                 | Public tap / standpipe  | 20%                                                       | 20%                              | 35%                                          |
|                                                                                                 | Protected spring        | 20%                                                       | 25%                              | 25%                                          |
|                                                                                                 | Protected well          | <20%                                                      | <20%                             | 25%                                          |
|                                                                                                 | Unprotected well / pump | 20%                                                       | 20%                              | <20%                                         |
|                                                                                                 | Rain water / burka      | 30%                                                       | 20%                              | <20%                                         |
|                                                                                                 | River                   | 70%                                                       | 50%                              | 75%                                          |
|                                                                                                 | Pond / lake             | 20%                                                       | 20%                              | <20%                                         |

## 6.3 Availability: WaterGuard

With respect to the opportunity to use water purification systems at the first round stage, water purification products were available to some extent in all three supervision areas. There is a wider coverage in Kore than Shakiso/Liben/Meda Welabu and SNNPR. 70% of women in Kore mention the availability of *WaterGuard* as do 40% of women in both Shakiso/Liben/Meda Welabu and SNNPR. The availability of water purification products in Kore and Shakiso/Liben/Meda Welabu is probably (partly) the result of the emergency response projects of PSI/Ethiopia and other organizations.

**Table 3: availability of WaterGuard**

|  | Supervisory Area                           |                   |                               |
|--|--------------------------------------------|-------------------|-------------------------------|
|  | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) | Kore<br>(Oromiya) | Hulla/<br>Angatcha<br>(SNNPR) |
|  |                                            |                   |                               |

|                                                          | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) |
|----------------------------------------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| Is <i>WaterGuard</i> easily available in your community? | 40%                  | >95%                  | 70%                  | 90%                   | 40%                  | 75%                   |

#### 6.4 Ability: knowledge about diarrhea and water treatments

The knowledge of the greater vulnerability of children under five to diarrhea varies. Except for the causing effect of contaminated water most other knowledge indicators are poor. However, it is good to note that almost all women in all three supervision areas think diarrhea is preventable, a major knowledge stimulating factor to adopting preventative behaviors.

Almost all women in Shakiso/Liben/Meda Welabu know that children under five are most vulnerable to diarrhea. However, only around half of the women in both Kore and SNNPR mention children under 5 when asked about groups most affected by diarrhea. Around half of the women in these areas mention 'everyone' when asked this question.

There is a strong perception that clear water must be safe to drink, when in fact, it can still be contaminated by diarrhea disease causing organisms. I.e. it is very alarming that more than half of the women in all three areas think that clear water is safe to drink.

In general, women in all three areas associate contaminated water with diarrhea. Furthermore, around half of the women in Shakiso/Liben/Meda Welabu know about the causing effect of contaminated food, dirty hands and leaving stored water uncovered. Around a quarter of the women in Kore and SNNPR know about the causing effect of contaminated food, dirty hands and eating raw food.

**Table 4: Knowledge of diarrhea and water treatments**

|                                                           |                    | Supervisory Area                           |                       |                      |                       |                                |                       |
|-----------------------------------------------------------|--------------------|--------------------------------------------|-----------------------|----------------------|-----------------------|--------------------------------|-----------------------|
|                                                           |                    | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) |                       | Kore<br>(Oromiya)    |                       | Hullla/<br>Angatcha<br>(SNNPR) |                       |
|                                                           |                    | Baseline %<br>(N=19)                       | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19)           | Follow up %<br>(N=19) |
| Do you know which groups are most affected by diarrhea?   | Adults             | <20%                                       | 25%                   | <20%                 | 35%                   | 20%                            | 20%                   |
|                                                           | Children under 5   | 95%                                        | 85%                   | 55%                  | 65%                   | 45%                            | 50%                   |
|                                                           | Elderly people     | 30%                                        | 35%                   | 25%                  | 25%                   | 25%                            | 45%                   |
|                                                           | Pregnant women     | <20%                                       | 25%                   | <20%                 | 20%                   | 40%                            | 55%                   |
|                                                           | Adult men          | 20%                                        | <20%                  | 30%                  | 25%                   | 20%                            | <20%                  |
|                                                           | Everyone           | 25%                                        | 45%                   | 45%                  | 70%                   | 55%                            | 50%                   |
|                                                           | Other (specify)    | 20%                                        | 40%                   | <20%                 | 20%                   | <20%                           | <20%                  |
|                                                           | Don't know         | <20%                                       | 20%                   | 20%                  | <20%                  | 25%                            | <20%                  |
| If water looks clear, does that mean it is safe to drink? |                    | 60%                                        | 35%                   | 60%                  | 35%                   | 55%                            | 45%                   |
| Do you know what can cause diarrhea?                      | Contaminated water | 80%                                        | 85%                   | 70%                  | 90%                   | 60%                            | 50%                   |
|                                                           | Contaminated food  | 45%                                        | 30%                   | 20%                  | 60%                   | 20%                            | 25%                   |
|                                                           | Eating raw food    | <20%                                       | <20%                  | 35%                  | 35%                   | 20%                            | 65%                   |
|                                                           | Dirty hands        | 70%                                        | 65%                   | 30%                  | 65%                   | 40%                            | 30%                   |

|                            |                                                   |      |      |      |      |      |      |
|----------------------------|---------------------------------------------------|------|------|------|------|------|------|
|                            | Leaving stored water uncovered                    | 50%  | 30%  | <20% | 25%  | 20%  | 35%  |
|                            | Defecating in an open area                        | <20% | 20%  | <20% | 20%  | <20% | 35%  |
|                            | Sharing water sources with animals                | <20% | 20%  | <20% | <20% | <20% | <20% |
|                            | Sharing water sources with bathing/cleaning areas | 20%  | <20% | <20% | <20% | <20% | <20% |
| Can diarrhea be prevented? |                                                   | 85%  | 85%  | >95% | 80%  | 75%  | 95%  |

## 6.5 Motivation: severity of, susceptibility to diarrhea

First round survey indicators related to motivation are positive for Shakiso/Liben/Meda Welabu and SNNPR, i.e. most of the respondents have a good understanding of the threat and susceptibility to diarrhea diseases in their community. With practically all respondents agreeing, that diarrhea is a major problem in their community and that it can be fatal if their hygiene and water is contaminated. Almost all women in all three supervision areas think diarrhea is preventable and people can die from diarrhea. Furthermore, around three quarters of women in Shakiso/Liben/Meda Welabu and SNNPR think diarrhea is a serious problem in their community. However, it is concerning that only 25% of the women in Kore think diarrhea is a serious problem in their community.

Table 5: severity and susceptibility to diarrhea

|                                                               | Supervisory Area                           |                       |                      |                       |                                |                       |
|---------------------------------------------------------------|--------------------------------------------|-----------------------|----------------------|-----------------------|--------------------------------|-----------------------|
|                                                               | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) |                       | Kore<br>(Oromiya)    |                       | Hullla/<br>Angatcha<br>(SNNPR) |                       |
|                                                               | Baseline %<br>(N=19)                       | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19)           | Follow up %<br>(N=19) |
| Do you think people can die from diarrhea?                    | >95%                                       | 75%                   | >95%                 | 30%                   | >95%                           | 70%                   |
| Do you think diarrhea is a serious problem in your community? | 85%                                        | 65%                   | 25%                  | 25%                   | 70%                            | 50%                   |

## 6.6 Actual use - WaterGuard

With respect to the actual use of water purification products, the conclusion can be drawn that women in Shakiso/Liben/Meda Welabu and Kore are using *WaterGuard* relatively consistently for treating of their water before consumption. Actual use in SNNPR isn't widely observed among the respondents, as expected because there hasn't been an emergency project over there.

85% of women in Shakiso/Liben/Meda Welabu, 60% of women in Kore and 40% of women in SNNPR have *WaterGuard* in their houses at the day of the interview. Half to three quarters of women in Shakiso/Liben/Meda Welabu and Kore used *WaterGuard* the last time they fetched water, drunk water treated with *WaterGuard* regularly the last week and think that this product is effective at preventing diarrhea. In SNNPR this is only a quarter to a third of the women. Hardly anybody paid for receiving *WaterGuard* in the three supervision areas.

Table 6: actual use of WaterGuard

|  | Supervisory Area                           |                   |                                |
|--|--------------------------------------------|-------------------|--------------------------------|
|  | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) | Kore<br>(Oromiya) | Hullla/<br>Angatcha<br>(SNNPR) |

|                                                                                          | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) |
|------------------------------------------------------------------------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| Do you have any chemical water treatments in your house today?                           | 85%                  | 70%                   | 60%                  | 50%                   | 40%                  | 95%                   |
| <b>Observation by interviewer – <i>WaterGuard</i> actually present in the household?</b> | <b>85%</b>           | <b>70%</b>            | <b>65%</b>           | <b>75%</b>            | <b>35%</b>           | <b>65%</b>            |
| Did you use <i>WaterGuard</i> the last time you fetched water?                           | 80%                  | 65%                   | 60%                  | 45%                   | 30%                  | 50%                   |
| Did your family drink water treated with <i>WaterGuard</i> regularly in the past week?   | 70%                  | 60%                   | 65%                  | 40%                   | 25%                  | 50%                   |
| Did you have to pay to receive this product?                                             | <20%                 | 65%                   | 20%                  | 45%                   | 20%                  | <20%                  |
| Do you think this product is effective at preventing diarrhea?                           | 80%                  | 80%                   | 55%                  | 60%                   | 35%                  | 60%                   |

## 6.7 Other hygienic behaviors and practices

Diarrhea treatment is weak in all three supervision areas which is a worrying practice. There is not one single type of fluid that is common for the women to give to family members with diarrhea. Both milk and/or breast milk are the most widely used products (both used by around a quarter to a third of women). Furthermore, in very rare instances ORS, Lem Lem and home made sugar and salt solutions are used which is disappointing (products that are not part of the project). Also, there is no common practice with respect to drinking and eating for people with diarrhea. Some people eat and drink less, which is considered not a good practice, while others drink and eat around the same amount or more.

Regarding general hygienic behavior and practice, almost all women in Shakiso/Liben/Meda Welabu and Kore and over half of the women in SNNPR store their drinking water in a narrow mouth container/jerry can. Furthermore, around a quarter of women in all three areas use an open bucket/container with cover. Washing hands is predominantly associated with eating (especially before eating). It is alarming that only a quarter of women wash their hands when preparing food. Also a quarter to half of the women washes hands before feeding a child. Around half of the women in Shakiso/Liben/Meda Welabu and Kore wash hands after going to the toilet; however no women in SNNPR are washing hands after going to the toilet. All these low levels of hand washing should also be increased. Almost all people in all areas who do wash hands use soap and water. Around half of the families of the interviewed women have no sanitary facilities available to them. The other half is using a traditional pit latrine (either covered or uncovered). Improved sanitation is non-existent.

**Table 7: Other hygienic behaviours and practices**

|                                                                               |                                   | Supervisory Area                           |                       |                      |                       |                                |                       |
|-------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------|-----------------------|----------------------|-----------------------|--------------------------------|-----------------------|
|                                                                               |                                   | Shakiso/Liben/<br>Meda Welabu<br>(Oromiya) |                       | Kore<br>(Oromiya)    |                       | Hullla/<br>Angatcha<br>(SNNPR) |                       |
|                                                                               |                                   | Baseline %<br>(N=19)                       | Follow up %<br>(N=19) | Baseline %<br>(N=19) | Follow up %<br>(N=19) | Baseline %<br>(N=19)           | Follow up %<br>(N=19) |
| The last time a family member had diarrhea, what types of fluid did you give? | Oral Rehydration Salt             | <20%                                       | 20%                   | <20%                 | <20%                  | 20%                            | 20%                   |
|                                                                               | Lem Lem                           | 20%                                        | <20%                  | <20%                 | 20%                   | <20%                           | 20%                   |
|                                                                               | Home made sugar and salt solution | <20%                                       | 20%                   | <20%                 | 20%                   | 20%                            | 30%                   |
|                                                                               | Milk                              | 35%                                        | <20%                  | 20%                  | 25%                   | <20%                           | <20%                  |
|                                                                               | Breast milk                       | 35%                                        | 20%                   | 25%                  | 25%                   | 25%                            | 20%                   |
|                                                                               | Other fluids (soup etc)           | <20%                                       | 20%                   | 25%                  | 20%                   | 20%                            | <20%                  |
|                                                                               | Other                             | <20%                                       | <20%                  | <20%                 | <20%                  | <20%                           | <20%                  |
| When a family                                                                 | Less                              | 30%                                        | <20%                  | 20%                  | <20%                  | <20%                           | <20%                  |

|                                                                                                                              |                                     |      |      |      |      |      |      |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------|------|------|------|------|------|
| member last had diarrhea, was he/she given the same amount to drink as before the diarrhea, or more, or less?                | Same                                | 20%  | <20% | 20%  | 25%  | 30%  | 30%  |
|                                                                                                                              | More                                | 35%  | 30%  | 35%  | 20%  | <20% | 25%  |
|                                                                                                                              | Don't know                          | 20%  | <20% | <20% | 20%  | <20% | 20%  |
| When your child last had diarrhea, Was he/she given the same amount of food to eat as before the diarrhea, or more, or less? | Less                                | 35%  | 25%  | <20% | 20%  | <20% | <20% |
|                                                                                                                              | Same                                | <20% | <20% | 30%  | 25%  | 40%  | 35%  |
|                                                                                                                              | More                                | 35%  | 20%  | 25%  | 20%  | 20%  | 20%  |
|                                                                                                                              | Don't know                          | 20%  | <20% | <20% | <20% | <20% | 20%  |
| How do you store your drinking water in the household?                                                                       | Open bucket                         | <20% | 20%  | <20% | <20% | <20% | <20% |
|                                                                                                                              | Open container                      | <20% | 20%  | <20% | <20% | 20%  | <20% |
|                                                                                                                              | Open bucket / container with cover  | 25%  | 30%  | 20%  | 30%  | 20%  | 45%  |
|                                                                                                                              | Narrow mouth container / jerrycan   | >95% | 90%  | >95% | 85%  | 65%  | 45%  |
|                                                                                                                              | Traditional clay pot                | <20% | 20%  | <20% | 20%  | <20% | 40%  |
|                                                                                                                              | Other                               | <20% | <20% | <20% | 20%  | <20% | <20% |
| At what moments did you wash your hands in the last 24 hours?                                                                | When you prepared food              | 25%  | 80%  | 25%  | 65%  | 25%  | 30%  |
|                                                                                                                              | After going to the toilet           | 55%  | 55%  | 40%  | 70%  | <20% | 30%  |
|                                                                                                                              | Before eating food                  | 85%  | >95% | 55%  | >95% | 85%  | 95%  |
|                                                                                                                              | After eating food                   | 55%  | 85%  | 25%  | 65%  | 20%  | 55%  |
|                                                                                                                              | Before feeding a child              | 30%  | 80%  | 25%  | 85%  | 50%  | 65%  |
|                                                                                                                              | Other (e.g. before prayer)          | 35%  | <20% | 60%  | 35%  | <20% | <20% |
| What did you wash your hands with on the last occasion?                                                                      | Soap & water                        | >95% | 75%  | >95% | 60%  | 80%  | 60%  |
|                                                                                                                              | Ash & water                         | <20% | <20% | <20% | <20% | 20%  | <20% |
|                                                                                                                              | Water only                          | 30%  | 50%  | 40%  | 65%  | <20% | 60%  |
|                                                                                                                              | Other                               | <20% | <20% | <20% | <20% | <20% | <20% |
| What sanitary facilities are available to your family?                                                                       | Flush toilet                        | <20% |      | <20% |      | <20% |      |
|                                                                                                                              | Ventilation improved pit latrine    | <20% |      | <20% |      | 20%  |      |
|                                                                                                                              | Improved pit latrine (slab/covered) | <20% |      | 25%  |      | <20% |      |
|                                                                                                                              | Traditional pit latrine (covered)   | 35%  |      | 65%  |      | 45%  |      |
|                                                                                                                              | Traditional pit latrine (uncovered) | 40%  |      | 30%  |      | 40%  |      |
|                                                                                                                              | No facilities/open air              | 65%  |      | 30%  |      | 40%  |      |
| Did you use this facility in the last 24 hours?                                                                              |                                     | >95% |      | >95% |      | >95% |      |

## 7.0 COMMUNITY FOCUS GROUP ANALYSES

A community discussion guide questionnaire was used principally to gain some additional qualitative data on the community's response during the first round survey for products acceptability, future need and accessibility. The results obtained from ten sets of focus groups in ten of the Kebeles that were selected for the more detailed quantitative first round survey described earlier, are summarized as follows. 10-15 community inhabitants from the selected Kebeles were invited for the focus group discussions, with these groups representing mainly women of 15-40 years of age and to some extent elders and religious leaders.

- All of the groups reported that they knew about AWD, and all stated that the epidemic had been a problem in their areas.
- The majority of the groups reported that they had received assistance in the form of provision of water purification products from the Woreda Health Bureau for free, and started purchasing the products by themselves when they run out from locally available shops, on average from 3-5 birr per bottle.
- About half of the groups witnessed the training sessions organized at their Kebeles where trained Community agents, Kebele officials and some mothers have been demonstrating a training session using different pictorial diagrams before they freely get 2-3 bottles of *WaterGuard*
- The majority of the groups reported that they generally understood how to use *WaterGuard* and expressed their readiness to buy it in the near future by themselves if the products are available at commercial shops. They complained most of the time that stocks are not sufficient, or that prices are expensive – up to 5 birr/bottle.

## 8.0 RESULTS OF THE SECOND ROUND SURVEY

PSI/Ethiopia conducted a second round survey three months after the first round survey. The second round survey was conducted in order to assess the difference between:

1. The immediate effect after the emergency projects in Oromiya and the effect, impact, knowledge, ability and behavior three months later.
2. The difference between the base line situation and the effect, impact, knowledge and behavior three months later after the project / introduction of *WaterGuard* in SNNPR.

This part of the report discusses the outcomes of the second round survey. In general, the results of the second round survey are similar to the results of the first round survey in Oromiya. This could be expected as a result of the fact that no additional campaigns/projects have taken place in between the first round survey and the second round survey. Also expected, was the (slight) increase of messages heard, knowledge, behavior and use of *WaterGuard* in SNNPR after the introduction of the product and associated campaigns. Overall, there have been a few (important) differences in the results of both surveys. The results of the second round survey are compared with the first round survey by presenting the most important and/or significant differences compared to the first round survey:

### 8.1 Availability: *WaterGuard*

At least three quarters of women in all three areas said *WaterGuard* is easily available during the second round survey. This is a significant increase compared to the first round survey and therefore one of the successes of the emergency projects and campaigns of PSI/Ethiopia and others.

## **8.2 Ability: knowledge about diarrhea and water treatments**

It is encouraging that significantly fewer women in all three supervision areas think that clear water is safe to drink. Now, around a third to half of the women in all three areas think this is the case. The knowledge with respect to the causes of diarrhea has increased slightly. However, only a few more women in all three areas mention a slightly greater number of causes.

## **8.3 Motivation: severity of, susceptibility to diarrhea**

The answers of the women with respect to the groups most affected by diarrhea have not been changed much. The percentages mentioning children under five and pregnant women have increased slightly.

It is a concern that fewer female respondents in the second round survey have the opinion that diarrhea is severe compared to the first round survey. Especially in Kore this is the case, only around a quarter of women think 1) that people can die from diarrhea and 2) that diarrhea is a serious problem in their community. In both Shakiso/Liben/Meda Welabu and SNNPR these percentages have also dropped to around half to three quarters of the women. One possible explanation could be that the peak of the AWD epidemic had passed by the time of the second round survey, and the responses reflect a lower level of importance given to the problem. This question should probably be explored more carefully in future surveys.

## **8.4 Actual use - WaterGuard**

The amount of women that have chemical treatments in their house at the day of the interview has slightly dropped in Shakiso/Liben/Meda Welabu and Kore to around a half to three quarters of women, still relatively high three months after the emergency project was finished. In SNNPR now almost all women had chemical treatments in their house compared to less than half during the first round survey. Also the percentages of women using *WaterGuard* the last time they fetched water and the percentages of family regularly drinking treated water the last week have dropped slightly in Shakiso/Liben/Meda Welabu and Kore and increased significantly in SNNPR. Possibly the behavior in Shakiso/Liben/Meda Welabu and Kore is related with the fact that now half or more of the women in these areas say they have paid for *WaterGuard* compared to less than 20% during the first round survey. In SNNPR no women had to pay for *WaterGuard* according to the second round survey. Finally, also a larger amount of women in SNNPR think *WaterGuard* is effective in preventing diarrhea.

## **8.5 Table 5: Actual use of WaterGuard Other hygienic behaviors and practices**

The practices / behavior with respect to the treatment of diarrhea (amount of fluid and food) and the storage of drinking water has not changed much in all three supervision areas. However, the behavior with respect to washing hands has been improved in all three areas. Almost all women wash hands before eating food and around half or more of the women in all areas wash hands now before feeding a child, after eating food, when preparing food (one third in SNNPR) and after going to the toilet (one third in SNNPR). The women wash their hands with water and soap or with water only.

## 9.0 SURVEY RECOMMENDATIONS

In this part of the report recommendations for policies and communication messages as a result of the surveys will be discussed. Both water and sanitation interventions and channels of communication will be tackled briefly. Currently there are no plans for a future emergency AWD project; the previous project was a one off emergency response project, because it was the result of an AWD outbreak. However, PSI/Ethiopia is planning to continue supplying *WaterGuard* and spreading associated communication messages to all three supervision areas. Therefore, these recommendations focus predominantly on the continuation of *WaterGuard* distribution. However, also a few recommendations for future AWD emergency interventions will be discussed shortly.

For the use of water treatment products in all three supervision areas, the main barrier to use appears to be first 'motivation' (severity of and susceptibility to diarrhea). This is the main issue that should be addressed in the near future. Furthermore, 'ability' factors should be addressed in order to improve the knowledge and hygienic behaviors/practices in the three supervision areas. Finally 'availability' and 'actual use' should be stimulated.

The most important message to be spread is the fact that (acute watery) diarrhea is a serious problem. The interventions and communication campaigns should be focused around this message. The need for this focus is evident, because of the alarming outcome that in the second round survey less respondents in all three areas thought diarrhea was severe compared to the first round survey. The seriousness and severity of diarrhea and the fact that it can affect "you and your family" should therefore be the core of all campaigns. This main message can subsequently be accompanied by a number of specific diarrhea and water treatment messages in all three supervision areas:

- Messages with respect to the causes of diarrhea should be reinforced by the campaign.
- Different messages with respect to *WaterGuard* should be included in the campaign.
- It is important to emphasize that children under five and pregnant women are especially vulnerable to diarrhea.
- Include the fact that clear water isn't safe to drink in the campaign.
- The campaigns should also address the amount of fluid and food and the types of fluid to give to people that are having diarrhea. Many people don't know that it is necessary to increase fluids during episodes of diarrhea diseases, particularly ORS or home made sugar and salt solutions
- Messages with respect to the need for hand washing should be reinforced by the campaign although improved behavior has been started already.
- Also messages that drinking water should be stored in closed mouthed or covered containers in order to be safe from contamination should be reinforced by the campaign.

It should be considered to devote a little bit more attention towards SNNPR.

Both the availability and actual use of *WaterGuard* should be increased in all three supervision areas. In order to achieve this, among other things the need for treating water with *WaterGuard* should be emphasized. I.e. when comparing the first round survey and the second round survey it is observed that the actual use of *WaterGuard* dropped after payments were introduced after the emergency AWD project was finished in Oromiya. It should be mentioned that in some areas the private retailers have increased the price above the by PSI/Ethiopia recommended price. They were able to do so as a result of a high demand for the product and a low supply for the commercial market. PSI/Ethiopia will increase competition between retailers in the future and as a result the price will probably drop to around the recommended price again. This will be the result of the fact that PSI/Ethiopia will be able to focus more on commercial selling instead of free distribution in order to meet the AWD epidemic (where most of the supply was going to at the time). PSI/Ethiopia has had similar experiences before when they have worked with one supplier for Malaria bed nets in a specific area only. After increasing

the level of competition and mentioning the price in their advertising campaign, all retailers decreased the price a little bit below the recommended price.

The most important issue with respect to availability and use in general and for AWD emergency projects specially, is that the people have to know that it is very important to treat their water. Before they have realized this/gained this knowledge, *WaterGuard* should be available free of charge (as a temporary measure). The importance of the issues of availability and actual use of *WaterGuard* in Oromiya and SNNPR specifically are even more stressed by the fact that many people in all three supervision areas get their drinking water from unprotected sources.

It is a good thing that most households in all three areas get their messages from a number of sources; this provides a valuable base/infrastructure for effective communication. The next campaigns should aim to maintain the involvement and/or further develop the involvement/capacity of community workers, friends/relatives and health centers/posts to pass messages to the community. Furthermore, some future messages can also be spread through billboards and radio.

Finally, it is important that in case of AWD emergency projects a long term approach/campaign/project will be developed in order to really change the knowledge, ability, motivation and practices of the people in the long term. Throughout the campaign the main focus should be the seriousness of diarrhea and in different phases other more specific messages could be used/added. Probably it is wise to include the PSI/Ethiopia community cards and the PSI/Ethiopia road show at some stage(s) in such a project/campaign as well.

**APPENDICES****Appendix 1.**

***AWD and Water Treatment Questionnaire  
Oromiya & SNNP Regions***

Hello! My name is \_\_\_\_\_. I work for an NGO in Addis Ababa. I would like to ask you some questions about your exposure to campaigns related to diarrhea diseases. The information you provide will be kept confidential. Your answers will only be used for informing and developing our programs and providing youth with the best possible services.

This interview will take approximately 15 minutes. Your participation is strictly voluntary and you can refuse to answer a question if it makes you feel uncomfortable. We simply ask that you provide the most accurate responses possible. Will you participate?

Interviewer signature/date: \_\_\_\_\_

Interview start time: \_\_\_\_\_

Supervisor signature/date: \_\_\_\_\_

Thank you. Shall we begin?

**IDENTIFICATION**

| N <sup>o</sup> | Questions and filters                                      | Codes        |
|----------------|------------------------------------------------------------|--------------|
|                | Questionnaire number                                       | [ ][ ][ ][ ] |
|                | Region                                                     | [ ][ ]       |
|                | Woreda                                                     | [ ][ ]       |
|                | Kebele                                                     | [ ][ ]       |
|                | Type of place<br>City.....1<br>Town.....2<br>Village.....3 | [ ]          |
|                | Enumeration area                                           | [ ][ ][ ]    |
|                | Household number                                           | [ ][ ][ ]    |
|                | Respondent's number                                        | [ ][ ]       |

**INTERVIEWER'S VISITS**

|                    | Visit 1            | Visit 2            | Visit 3            | FINAL Visit        |
|--------------------|--------------------|--------------------|--------------------|--------------------|
| Date               | [ ][ ][ ][ ][ ][ ] | [ ][ ][ ][ ][ ][ ] | [ ][ ][ ][ ][ ][ ] | [ ][ ][ ][ ][ ][ ] |
| Interviewer's Name | _____<br>[ ]       | _____<br>[ ]       | _____<br>[ ]       | _____<br>[ ]       |

|                               |                    |                                         |                    |  |
|-------------------------------|--------------------|-----------------------------------------|--------------------|--|
| Result*                       |                    |                                         |                    |  |
| Date next visit               | [ ][ ][ ][ ][ ][ ] | [ ][ ][ ][ ][ ][ ]                      | [ ][ ][ ][ ][ ][ ] |  |
| * Codes Result                |                    |                                         |                    |  |
| Questionnaire completed.....1 |                    | Interviewee/household not present.....4 |                    |  |
| Refusal.....2                 |                    | House not occupied.....5                |                    |  |
| Deferred .....3               |                    | House not seen/not exist.....6          |                    |  |
|                               |                    | Other (specify) .....7                  |                    |  |

Supervisor: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Signature \_\_\_\_\_

**A. EXPOSURE TO DIARRHEA AND WATER TREATMENT INTERVENTIONS**

|      |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q101 | Do you know about Acute Watery Diarrhea (AWD)?                                                                                                                    | Yes.....1<br>No.....0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Q102 | Have you ever received any information about Acute Watery Diarrhea (AWD) prevention in the past six months?                                                       | Yes ..... 1<br>No ..... 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Q103 | <p>What messages have you heard about AWD prevention?</p> <p><b>[CIRCLE 1 EACH TIME AN ANSWER IS MENTIONED BY THE RESPONDENT. MULTIPLE RESPONSE POSSIBLE]</b></p> | <p>.....Yes.....No</p> <p>a. AWD is very serious.....1.....0</p> <p>b. Signs and symptoms of AWD.....1.....0</p> <p>c. AWD can be caused by contaminated water .....1.....0</p> <p>d. AWD can be caused by contaminated food .....1.....0</p> <p>e. AWD can be caused by poor hygiene.....1.....0</p> <p>f. Use of latrine prevents AWD.....1.....0</p> <p>g. Containing feces in absence of latrine prevents AWD.....1.....0</p> <p>h. Washing hands with soap prevents AWD.....1.....0</p> <p>i. Washing hands with ash prevents AWD.....1.....0</p> <p>j. Eating raw food can cause AWD.....1.....0</p> <p>k. Diarrhea causes dehydration that can lead to death .....1.....0</p> <p>l. Clear water can contain harmful germs that cannot be seen....1.....0</p> <p>m. Water must be stored carefully, and covered well.....1.....0</p> <p>n. Water should be stored in clean, closed mouthed containers...1.....0</p> <p>Other (Specify) _____</p> |

| Q104                                                                                                                 | Where have you heard messages about preventing diarrhea diseases in the past six months?<br><br>(MULTIPLE ANSWERS POSSIBLE)<br><br>(PROBE ONCE: "Anywhere else?")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Community worker .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Health Center/Post.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Friends - relatives.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Brochure/Leaflet .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Billboard .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Radio .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>TV .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Other (Specify) _____</td> <td></td> <td></td> </tr> </tbody> </table> |           | Yes | No                                                                                                                   | Community worker ..... | 1 | 0                                              | Health Center/Post..... | 1 | 0                                                                           | Friends - relatives..... | 1 | 0                                                                       | Brochure/Leaflet ..... | 1 | 0                                                                                  | Billboard ..... | 1 | 0                                                              | Radio ..... | 1 | 0                                             | TV ..... | 1 | 0                     | Other (Specify) _____ |  |  |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|----------------------------------------------------------------------------------------------------------------------|------------------------|---|------------------------------------------------|-------------------------|---|-----------------------------------------------------------------------------|--------------------------|---|-------------------------------------------------------------------------|------------------------|---|------------------------------------------------------------------------------------|-----------------|---|----------------------------------------------------------------|-------------|---|-----------------------------------------------|----------|---|-----------------------|-----------------------|--|--|
|                                                                                                                      | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Community worker .....                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Health Center/Post.....                                                                                              | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Friends - relatives.....                                                                                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Brochure/Leaflet .....                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Billboard .....                                                                                                      | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Radio .....                                                                                                          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| TV .....                                                                                                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Other (Specify) _____                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q105                                                                                                                 | Was some of this information in your local language?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <table border="0"> <tbody> <tr> <td>Yes .....</td> <td>1</td> </tr> <tr> <td>No.....</td> <td>0</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yes ..... | 1   | No.....                                                                                                              | 0                      |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Yes .....                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| No.....                                                                                                              | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q106                                                                                                                 | Have you ever received any information about how to treat your drinking water in the past six months?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <table border="0"> <tbody> <tr> <td>Yes .....</td> <td>1</td> </tr> <tr> <td>No .....</td> <td>0</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes ..... | 1   | No .....                                                                                                             | 0                      |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Yes .....                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| No .....                                                                                                             | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q107                                                                                                                 | <div style="display: flex;"> <div style="flex: 1;">           What messages have you heard about treating drinking water?<br/><br/> <b>[CIRCLE 1 EACH TIME AN ANSWER IS MENTIONED BY THE RESPONDENT. MULTIPLE RESPONSE POSSIBLE]</b> </div> <div style="flex: 2;"> <table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>a. Treating water with <i>WaterGuard</i>/PUR gets rid of germs that cause typhoid and other diarrhea diseases .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>b. <i>WaterGuard</i>/PUR is easy to use .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>c. just one capful of <i>WaterGuard</i> will treat 20 liters of water .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>two capful of <i>WaterGuard</i> is recommended during AWD outbreak.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>d different water sources may require different dosages of <i>WaterGuard</i> .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>e One bottle of <i>WaterGuard</i> will last for one month.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>f. Use <i>WaterGuard</i>/PUR every day .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Other (Specify) _____</td> <td></td> <td></td> </tr> </tbody> </table> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Yes       | No  | a. Treating water with <i>WaterGuard</i> /PUR gets rid of germs that cause typhoid and other diarrhea diseases ..... | 1                      | 0 | b. <i>WaterGuard</i> /PUR is easy to use ..... | 1                       | 0 | c. just one capful of <i>WaterGuard</i> will treat 20 liters of water ..... | 1                        | 0 | two capful of <i>WaterGuard</i> is recommended during AWD outbreak..... | 1                      | 0 | d different water sources may require different dosages of <i>WaterGuard</i> ..... | 1               | 0 | e One bottle of <i>WaterGuard</i> will last for one month..... | 1           | 0 | f. Use <i>WaterGuard</i> /PUR every day ..... | 1        | 0 | Other (Specify) _____ |                       |  |  |
|                                                                                                                      | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| a. Treating water with <i>WaterGuard</i> /PUR gets rid of germs that cause typhoid and other diarrhea diseases ..... | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| b. <i>WaterGuard</i> /PUR is easy to use .....                                                                       | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| c. just one capful of <i>WaterGuard</i> will treat 20 liters of water .....                                          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| two capful of <i>WaterGuard</i> is recommended during AWD outbreak.....                                              | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| d different water sources may require different dosages of <i>WaterGuard</i> .....                                   | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| e One bottle of <i>WaterGuard</i> will last for one month.....                                                       | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| f. Use <i>WaterGuard</i> /PUR every day .....                                                                        | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Other (Specify) _____                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q108                                                                                                                 | Where have you heard messages about treating your water in the past six months?<br><br>(MULTIPLE ANSWERS POSSIBLE)<br><br>(PROBE ONCE: "Anywhere else?")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Community worker .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Health Center/Post.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Friends - relatives.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Brochure/Leaflet .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Billboard .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Radio .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>TV .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Other (Specify) _____</td> <td></td> <td></td> </tr> </tbody> </table> |           | Yes | No                                                                                                                   | Community worker ..... | 1 | 0                                              | Health Center/Post..... | 1 | 0                                                                           | Friends - relatives..... | 1 | 0                                                                       | Brochure/Leaflet ..... | 1 | 0                                                                                  | Billboard ..... | 1 | 0                                                              | Radio ..... | 1 | 0                                             | TV ..... | 1 | 0                     | Other (Specify) _____ |  |  |
|                                                                                                                      | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Community worker .....                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Health Center/Post.....                                                                                              | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Friends - relatives.....                                                                                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Brochure/Leaflet .....                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Billboard .....                                                                                                      | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Radio .....                                                                                                          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| TV .....                                                                                                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Other (Specify) _____                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q109                                                                                                                 | Was all or some of this information in your local language?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <table border="0"> <tbody> <tr> <td>Yes .....</td> <td>1</td> </tr> <tr> <td>No.....</td> <td>0</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yes ..... | 1   | No.....                                                                                                              | 0                      |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Yes .....                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| No.....                                                                                                              | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Q110                                                                                                                 | Have you seen these community cards<br><br>[SHOW COUNSELLING CARDS]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <table border="0"> <tbody> <tr> <td>Yes .....</td> <td>1</td> </tr> <tr> <td>No .....</td> <td>0</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes ..... | 1   | No .....                                                                                                             | 0                      |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| Yes .....                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |
| No .....                                                                                                             | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |                                                                                                                      |                        |   |                                                |                         |   |                                                                             |                          |   |                                                                         |                        |   |                                                                                    |                 |   |                                                                |             |   |                                               |          |   |                       |                       |  |  |

**B. GENERAL QUESTIONS ON WATER USE AND SOURCES**

|     |                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q20 | What is the current season? Is this the rainy or dry season?                                                                   | .....Yes.....No<br>Rainy season.....1.....0<br>Dry.....1.....0                                                                                                                                                                                                                                                                                                                                                                                                              |
| Q20 | What is the main source of drinking water for your household during the dry season?<br><br>[Choose one response only]          | ..... Yes ..... No<br>Bottled Water.....1.....0<br>Piped into dwelling.....1.....0<br>Piped into yard .....1.....0<br>Public tap/Standpipe.....1.....0<br>Protected well/pump .....1.....0<br>Unprotected Well/pump .....1.....0<br>Protected spring .....1.....0<br>Unprotected spring .....1.....0<br>Rainwater/burka .....1.....0<br>Tanker.....1.....0<br>Cart with small tank .....1.....0<br>River/stream.....1.....0<br>Pond/lake .....1.....0<br>Other .....1.....0 |
| Q20 | What is the main source of drinking water for your household during the <b>rainy</b> season?<br><br>[Choose one response only] | ..... Yes ..... No<br>Bottled Water.....1.....0<br>Piped into dwelling.....1.....0<br>Piped into yard .....1.....0<br>Public tap/Standpipe.....1.....0<br>Protected well/pump .....1.....0<br>Unprotected Well/pump .....1.....0<br>Protected spring .....1.....0<br>Unprotected spring .....1.....0<br>Rainwater/burka .....1.....0<br>Tanker.....1.....0<br>Cart with small tank .....1.....0<br>River/stream.....1.....0<br>Pond/lake .....1.....0<br>Other .....1.....0 |

**C. DETERMINANTS – Safe Water Systems**

|                                                                   |                                                          |                                         |  |
|-------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|--|
| <b>C.1. Opportunity: Availability of water treatment products</b> |                                                          |                                         |  |
| Q601                                                              | Is <i>WaterGuard</i> easily available in your community? | Yes.....<br>.....1<br>No.....<br>.....0 |  |

| C.2. Ability: Knowledge about diarrhea and water treatment    |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|-----------|--------------|--------------------------|---------|------------------------|---------|----------------------|----------------------|------------------|---------|-------------------------------------|---------|---------------------------------|-----------------|------------------------------------------|---------|---------------------------------------------------------|---------|----------------------|-----------------------|---|---|-----------------|---|---|--|
| Q602                                                          | What groups are most affected (most likely to have medical problems) by diarrhea?"<br><br><b>[DO NOT SUGGEST AN ANSWER]</b><br><br><b>[CIRCLE 1 EACH TIME AN ANSWER IS MENTIONED BY THE RESPONDENT. MULTIPLE RESPONSE POSSIBLE]</b> | <table border="0"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Adults .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Children under 5 .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Elderly people .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Pregnant women.....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Adult men .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Everyone .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Other (specify) .....</td> <td>1</td> <td>0</td> </tr> <tr> <td>Don't know.....</td> <td>1</td> <td>0</td> </tr> </tbody> </table>                                                                                                                                                 |  | Yes | No        | Adults ..... | 1                        | 0       | Children under 5 ..... | 1       | 0                    | Elderly people ..... | 1                | 0       | Pregnant women.....                 | 1       | 0                               | Adult men ..... | 1                                        | 0       | Everyone .....                                          | 1       | 0                    | Other (specify) ..... | 1 | 0 | Don't know..... | 1 | 0 |  |
|                                                               | Yes                                                                                                                                                                                                                                 | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Adults .....                                                  | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Children under 5 .....                                        | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Elderly people .....                                          | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Pregnant women.....                                           | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Adult men .....                                               | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Everyone .....                                                | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Other (specify) .....                                         | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Don't know.....                                               | 1                                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Q603                                                          | If water looks clear, does that mean it is safe to drink?                                                                                                                                                                           | Yes.....1<br>No.....0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Q604                                                          | Do you know what can cause diarrhea?                                                                                                                                                                                                | <table border="0"> <thead> <tr> <th></th> <th>Yes</th> </tr> </thead> <tbody> <tr> <td><b>No</b></td> <td></td> </tr> <tr> <td>Contaminated water .....</td> <td>1.....0</td> </tr> <tr> <td>Contaminated food.....</td> <td>1.....0</td> </tr> <tr> <td>Eating raw food.....</td> <td>1.....0</td> </tr> <tr> <td>Dirty hands.....</td> <td>1.....0</td> </tr> <tr> <td>Leaving stored water uncovered.....</td> <td>1.....0</td> </tr> <tr> <td>Defecating in an open area.....</td> <td>1.....0</td> </tr> <tr> <td>Sharing water sources with animals .....</td> <td>1.....0</td> </tr> <tr> <td>Sharing water sources with bathing/cleaning areas .....</td> <td>1.....0</td> </tr> <tr> <td>Other (specify).....</td> <td></td> </tr> </tbody> </table> |  | Yes | <b>No</b> |              | Contaminated water ..... | 1.....0 | Contaminated food..... | 1.....0 | Eating raw food..... | 1.....0              | Dirty hands..... | 1.....0 | Leaving stored water uncovered..... | 1.....0 | Defecating in an open area..... | 1.....0         | Sharing water sources with animals ..... | 1.....0 | Sharing water sources with bathing/cleaning areas ..... | 1.....0 | Other (specify)..... |                       |   |   |                 |   |   |  |
|                                                               | Yes                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| <b>No</b>                                                     |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Contaminated water .....                                      | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Contaminated food.....                                        | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Eating raw food.....                                          | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Dirty hands.....                                              | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Leaving stored water uncovered.....                           | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Defecating in an open area.....                               | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Sharing water sources with animals .....                      | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Sharing water sources with bathing/cleaning areas .....       | 1.....0                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Other (specify).....                                          |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Q605                                                          | Can diarrhea be prevented?                                                                                                                                                                                                          | Yes.....1<br>No.....0<br>DK.....8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| C.3. Motivation: Attitudes, Threat (Severity, susceptibility) |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Q606                                                          | Do you think people can die from Diarrhea?                                                                                                                                                                                          | Yes.....1<br>No.....0<br>DK.....8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |
| Q607                                                          | Do you think that diarrhea is a serious problem in your community?                                                                                                                                                                  | Yes.....1<br>No.....0<br>DK.....8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |     |           |              |                          |         |                        |         |                      |                      |                  |         |                                     |         |                                 |                 |                                          |         |                                                         |         |                      |                       |   |   |                 |   |   |  |

**D. Safe Water Systems use**

|      |                                                                                          |                                         |                                         |                                         |
|------|------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
| Q701 | Do you have any chemical water treatments in your household today?                       | Yes.....1<br>No.....2                   |                                         | <b>IF NO: Skip to Q801</b>              |
| Q702 | ASK RESPONDENT TO SHOW YOU THE TREATMENT(S) IN THE HOUSEHOLD.                            | SWS<br>(WaterGuard)                     |                                         |                                         |
|      |                                                                                          | Observed.....1<br>Not Observed....2     |                                         |                                         |
| Q703 | Did you use this product the last time you fetched water?                                | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 |
| Q704 | Did you or your family drink water treated with this product regularly in the past week? | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 |
| Q705 | Did you have to pay to receive this product?                                             | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 |
| Q706 | Do you think that this product effective at preventing diarrhea?                         | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 | Yes.....1<br>No.....2<br>Not Sure.....8 |

**E. OTHER DIARRHEA DISEASES/HYGIENIC BEHAVIOURS AND PRACTICES**

|      |                                                                               |                                                                                                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q801 | Have any of your family members had diarrhea before?                          | Yes<br>No      Go To Q805                                                                                                                                                                                                                                                                                                                   |
| Q802 | The last time a family member had diarrhea, what types of fluid did you give? | <div> ..... Yes..... No </div> <div> Oral Rehydration Salt ..... 1..... 0 </div> <div> Lem Lem..... 1..... 0 </div> <div> Home made sugar and salt solution..... 1      0 </div> <div> Milk.....1.....0 </div> <div> Breast milk ..... 1..... 0 </div> <div> Other fluids (soup etc) ..... 1..... 0 </div> <div> Other..... 1..... 0 </div> |

|      |                                                                                                                                          |                                                                                                                                                                                                                                                                                                                       |
|------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q803 | When a family member last had diarrhea, was he/she given the same amount to drink as before the diarrhea, or more, or less?              | <p>..... Yes..... No</p> <p>Less..... 1..... 0</p> <p>Same ..... 1..... 0</p> <p>More ..... 1..... 0</p> <p>Don't know ..... 1..... 0</p>                                                                                                                                                                             |
| Q804 | When your child last had diarrhea, Was he/she given the same amount of food to eat as before the diarrhea, or more, or less?             | <p>..... Yes..... No</p> <p>Less..... 1..... 0</p> <p>Same ..... 1..... 0</p> <p>More ..... 1..... 0</p> <p>Don't know ..... 1..... 0</p>                                                                                                                                                                             |
| Q805 | How do you store your drinking water in the household?                                                                                   | <p>..... Yes..... No</p> <p>Open bucket..... 1..... 0</p> <p>Open container ..... 1..... 0</p> <p>Open bucket/container with cover ..... 1 0</p> <p>Narrow mouth container/jerrycan..... 1 0</p> <p>Traditional clay pot..... 1..... 0</p> <p>Other..... 1..... 0</p>                                                 |
| Q806 | At what moments did you wash your hands in the last 24 hours?<br><br>(MULTIPLE ANSWERS POSSIBLE)<br><br>(PROBE ONCE: "Any other times?") | <p><b>Yes No</b></p> <p>When you prepared food..... 1..... 0</p> <p>After going to the toilet ..... 1..... 0</p> <p>Before eating food..... 1..... 0</p> <p>After eating food ..... 1..... 0</p> <p>Before feeding a child..... 1..... 0</p> <p>Other..... 1..... 0</p>                                               |
| Q807 | What did you wash your hands with on the last occasion?.....<br><br>(ONLY ONE ANSWER POSSIBLE)                                           | <p><b>Yes No</b></p> <p>Soap &amp; water ..... 1..... 0</p> <p>Ash &amp; water..... 1..... 0</p> <p>Water only..... 1..... 0</p> <p>Other ..... 1..... 0</p>                                                                                                                                                          |
| Q808 | What sanitary facilities are available to your family?<br><br>(ONLY ONE ANSWER POSSIBLE)                                                 | <p>..... Yes..... No</p> <p>Flush toilet ..... 1..... 0</p> <p>Ventilation improve pit latrine.. 1..... 0</p> <p>Improved pit latrine (slab/covered) ..... 1 0</p> <p>Traditional pit latrine (covered) 1..... 0</p> <p>Traditional pit latrine (uncovered) ..... 1 0</p> <p>No facilities/open air..... 1..... 0</p> |
| Q809 | Did you use this facility in the last 24 hours?                                                                                          | <p>Yes ..... 1</p> <p>No ..... 0</p>                                                                                                                                                                                                                                                                                  |

**Thank you for your time!**

**Appendix 2.**

Name of the Region: \_\_\_\_\_ Zone: \_\_\_\_\_ Woreda: \_\_\_\_\_

Kebele \_\_\_\_\_

**FOCUSGROUP DISCUSSIONS Questionnaire** (at selected Kebeles with 10-15 Key groups)

|    |                                                                                                                                     |                      |
|----|-------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1  | Do you know about AWD?                                                                                                              | Y _____<br>N _____   |
| 2  | Was there an epidemic currently in your surrounding?                                                                                |                      |
| 3  | Is it serious problem in your community now?                                                                                        |                      |
| 4  | Have there been any education/ advice /assistance given to you in the last six months?                                              | Y _____<br>N _____   |
| 5  | If yes, what advices did you receive. By whom?                                                                                      |                      |
| 6  | Have you ever seen counseling cards? Where? Do you recall any of the images/ messages /characters?                                  |                      |
| 7  | Have you heard about <i>WaterGuard</i> before? What is it?                                                                          | Y _____<br>N _____   |
| 8  | Where did you get <i>WaterGuard</i> before and who provides it? Free distribution, purchase, gift from friends/relatives/ neighbors | a) _____<br>b) _____ |
| 9  | If bought how much?                                                                                                                 |                      |
| 10 | If yes, how did you find it? If no, why?                                                                                            |                      |
| 11 | If available, are you willing to buy <i>WaterGuard</i> by your own in the future and use it?                                        | a) _____<br>b) _____ |
| 12 | Do you have any other comments / suggestions you would like to forward with regard to AWD and <i>WaterGuard</i> to better address?  |                      |