Guidelines for Implementation of Water Safety Plan
For Hotel and Restaurant
What is safe water?
Water which is free from microorganism and which contains chemical and minerals in tolerable limit is called safe water.

How water is contaminated?
- If groundwater contains high level of chemical contaminants like arsenic, chloride, manganese etc. or it is exposed to microorganisms.
- If wastes are dumped in the surface water
- If the water supply system is not operated properly, the distribution line is faulty or leaking and no regular O&M.
- If unclean container is used during collection, transportation, preservation and use of water.

How can contaminated water cause us harm?
- Drinking of water contaminated with microorganisms causes diseases like Diarrhea, Cholera, Typhoid, Hepatitis and Jaundice.
- Drinking of arsenic contaminated water causes Arsenicosis.
- People generally drink less amount of water than required if it is saline or have high amount of iron causing dehydration.

People become weak suffering from diseases caused by drinking of contaminated water, cannot go to work and endure loss of income. Severity of diseases may even lead to death.
What is WSP?

Water safety plan (WSP) is a comprehensive risk assessment and risk management approach that encompasses all steps in the water supply from catchment to consumer to ensure the safety of a drinking-water supply consistently.

Why WSP is needed at hotel and restaurant?

People roam around for different purposes. Often they need to take food at hotels and restaurants. Occasionally people dine with friends and relatives at hotels and restaurants for recreational purpose. Here few people like to have commercially available bottle water while others drink water supplied by the hotel or restaurant. In most cases, buyers seem to be reluctant about the safety of the purchased water.
Undoubtedly, no hotel and restaurant owner would expect that any customer be infected by disease or die by taking contaminated water. Hence, they must give attention to water contamination process and know what should be done to keep the water safe.

The more, the owners of hotel and restaurant will learn and practice WSP, the more quality of service will increase and customer will have safe water.

Some hotels and restaurants have connections from Pourashava (municipality) piped water supply systems. Some hotels and restaurants install as well as operate and maintain different water supply technologies by themselves. Hence, the owner/manager and workers should know the risks of contamination as well as how to control the risk to keep water safe. In the next sections water contamination process in piped water supply system and tubewell and associated actions to prevent those are discussed.
### How water is contaminated in piped water supply system?

**Source and risk of water contamination**

- Dirty water around the tank may spill into it if the lid is missing or it is placed at the ground/floor level.
- Water can be contaminated if reservoirs are unclean or lichen grows in the surfaces.

**Measures to control risk**

- The manhole of the reservoir is covered with clean lid; the lid is placed at 4-6 inches higher than the floor level.
- Reservoirs are cleaned regularly (at least 3 months interval) and no waste/dirt are found inside and outside of the reservoir.
Source and risk of water contamination

- If connection is made by unskilled technician or using low quality materials then distribution line is easily damaged causing ingress of dirty water through leaking pipe.
- Number of leakage and hence chances of water contamination may increase if the pipeline is very old or the protecting soil cover is eroded.

Measures to control risk

- Connection should be made properly by skilled technician and using quality materials.
- Old pipe should be replaced with new one and protection should be ensured by putting earth cover.

- If the surroundings of the tap stand is dirty
- If there is urinal/latrine adjacent to the Stand Post
- If bamboo/wood piece is used instead of proper tap and surroundings of tap stand is not clean.
- If drainage system is not good and dirty water is stagnant around the water point.

- Surroundings of the tap stand are kept clean.
- There is no latrine within 30 feet of the Stand Post
- Faulty taps are replaced by new ones.
- Proper drainage system is in place and water cannot accumulate around the water point.
How does tubewell water get contaminated?

If the aquifer from which the tubewell abstract water is arsenic contaminated.

If there is latrine within 50 feet of the tubewell.

If there is no platform, platform is broken and/or dirty, stagnant water in the surroundings.

If there is no cover/lid over the head of the tubewell.

Besides, Water can be contaminated if cloth/bottle is fastened to the spout of the tubewell or the sanitary seal of the tubewell is missing.
What are the control measures to prevent contamination of tubewell water?

- Place cover on top of the tubewell head.
- The distance between tubewell and latrine should be more than 30 feet.
- There is sanitary seal in the tubewell with clean and cemented platform
- Tubewell surroundings and the drain are kept clean and no stagnant water around the tubewell.
How to keep water safe during collection, preservation, transportation and use?

Irrespective of technology for collecting water in hotels and restaurants, attention must be given to prevent recontamination of water. Hence, it is important to know how to keep water safe during collection, transportation and use.

Dirty cloth is fastened to the tap and the surroundings is unclean.

Water is collected from stand post placed by wastewater drain and/or adjacent to latrine.

Water container/drum is kept in dirty place and water is taken using dirty mug.

There is no lid on the jar, jug and glass; the glasses are not placed in top down position.
What is to be done at the time of water collection and carrying?

- Both hands should be washed thoroughly with soap and clean water before collecting water.
- The water container and its lid should also be washed similarly before collecting water.
- Container should be kept covered while carrying and preserving water.

What cannot be done during collection and transportation of water?

- Water container should not be kept uncovered
- Collected water should not be touched
- Water should not be taken by dipping pot/mug with hand.
The water container should be kept at high and clean place.

The filled jug or bottle should be kept covered. The glasses should also be kept covered or placed upside-down.

The customer should be provided with clean glasses for drinking water.

If water dispenser is used, it should be cleaned regularly.
What needs to be monitored to get safe water from piped water supply?

To ensure safety of water certain features of piped water supply should be regularly observed. These are listed below. If the answer to any question is ‘No’ then action is required

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Observation issue</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Are the connections properly made in the pipe network?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are the pipes protected and adequately supported at canal or drain crossing?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is there no leakage at the pipeline or water not seeping at the pipe joints?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Are the pump house and its surroundings kept tidy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Is the reservoir manhole slightly elevated from floor level and covered with clean lid/cover?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Are ground or overhead reservoir and surroundings of the reservoirs clean?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Are there functional and well-maintained taps in the water points/ tap stands?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Is there undamaged platform with good drainage system and neat and clean surroundings in each tap stand?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Is water tested for microbial and chemical contamination at a regular interval and are actions taken based on test results?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Are both hands and the container washed thoroughly with clean water and soap before collecting water and is the container kept covered after collecting water?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What needs to be monitored to get safe water from tubewell?

To ensure safety of water from tubewell the following features should be regularly observed. If the answer to any question is ‘No’ then action is required

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Observation issue</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is there no latrine or excreta within 30 feet of the tubewell?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Is the platform undamaged, neat and clean with sanitary seal and good drainage system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is the body of the tube well clean with no growth of lichen?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Is there a sanitary seal in the tubewell?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Are unclean materials like plastic bottle, cloths not attached with the spout of tubewell?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Contributors:
- Umme Farwa Dalsy, Consultant
- Zahid Hossain, Consultant
- Shamsul Gafur Mahmud, World Health Organization
- Alauddin Ahmed, World Health Organization
- AKM Ibrahim, Department of Public Health Engineering
- Ibrahim Md Taimur, Department of Public Health Engineering