

# KEEPING YOUR DRINKING WATER SAFE

## CONDUCTING SANITARY SURVEYS



## Tool for Conducting a Sanitary Survey

The Tool for Conducting a Sanitary Survey is part of the Keeping Your Drinking Water Safe Community Toolkit developed by Live & Learn Environmental Education. The toolkit is designed to be used by Community Trainers, Health Officers, Community Workers, and Facilitators, to raise awareness about the need to keep water clean and promote responsible attitudes, behaviour and actions to ensure safe and lasting drinking water supplies.

Live & Learn Environmental Education is thankful to those who have contributed to the development of the 'Keeping Your Drinking Water Safe Community Toolkit'. They include:

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The **Keeping Your Drinking Water Safe Community Toolkit** contains:

- An Introductory Guide containing background information and annexes
- Tool for Conducting a Water Audit
- Tool for Conducting Sanitary Surveys
- Tool on Snapshots to Monitoring Water Sources
- Tool For Water Quality Monitoring Using The Hydrogen-Sulphide (H<sub>2</sub>S) Paper-Strip Test
- Tool on Water Awareness and Education
- Tool for Water Management Actions
- Comic and Paper-strip test Instruction Flipchart

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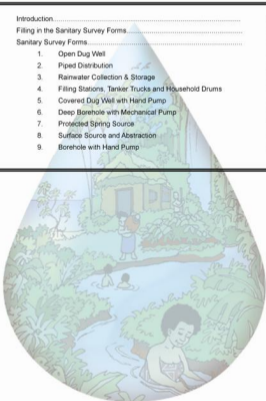
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## CONDUCTING A SANITARY SURVEY

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## Conducting a Sanitary Survey

A Sanitary Inspection or Sanitary Survey, is an on-site inspection and evaluation of all conditions, devices, and practices in a water supply system that pose an actual or potential danger to the health and well-being of the consumer.

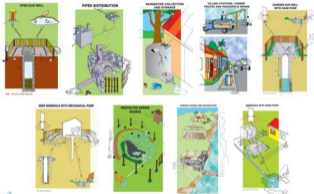
In communities, where qualified surveyors may not be able to conduct frequent visits, responsible community members can learn how to conduct the Sanitary Survey. They should sign the report, and agree to act on the recommendations where this is feasible.

The Sanitary Surveys for rainwater tanks, piped water systems, wells, and drums, help communities to check that their water sources are safe and free from contaminants. The Sanitary Surveys do not need a laboratory to be able to identify sources of water contamination and actions needed to address this.

It is important to fill in the relevant Sanitary Survey Form every time there is water sampling. The Sanitary Survey contains information that is linked to the water source or the water storage container e.g. drums and tanks.

You can use the Sanitary Survey Form provided for wells, piped distribution, rainwater systems, and trucked water to find out if your source is being contaminated.

Before filling in the Sanitary Survey Forms, make sure that you are filling in the correct form for the water source. There are nine Sanitary Survey Forms and accompanying diagrams.

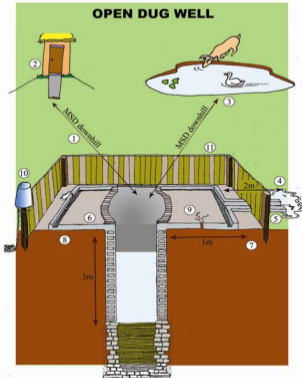


## Filling in the Sanitary Survey Forms

Every time a Sanitary Surveyor is going out to do a Sanitary Survey, he or she needs to fill in the correct Sanitary Survey Form. All the relevant details need to be filled.

1. Fill in the general information- Province/ Island/ Village; Date and Time when you are conducting the survey.
2. Fill in the Survey Number for your collection point, for example Survey no. 2.
3. Answer the specific information for assessment questions by circling Y ("Yes") or N ("No").
4. Total the score of risks, which is the number of "Yes" answers. The risks represent sources of possible contamination of your water source. For example, if you have circled 'yes' to the question 'Is there a toilet within 10 metres of the well?', then there is a risk that the water in the well could get contaminated from seepage of wastes from the toilet into the groundwater source.
5. Refer to the contamination risk score. If your score is high or very high, this means that your water source is in danger of being contaminated (if it isn't contaminated already), i.e. the risk of contamination is high!
6. If you are also conducting the H<sub>2</sub>S test, try to link your risk score with the result from the H<sub>2</sub>S test of water sampled from this water source. If your water is contaminated, the Sanitary Survey Form will give you a good idea why and where the source of contamination is from.
7. Use the Sanitary Survey to identify where the risks are, or sources of contamination, and implement actions to address the problem. For example, clean the gutters, move toilets away to a safer distance from the water source, etc.
8. Fill in the Results and Recommendations and leave the form with the community or household concerned so that they can take action to protect their water source.





# 1. OPEN DUG WELL

## I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

## II Specific Information for Risk Assessment

- |     |   |     |
|-----|---|-----|
| 1.  | Is there a toilet within 10 m of the well?  | Y/N |
| 2.  | Is the nearest toilet on higher ground than the well?   | Y/N |
| 3.  | Is there any other source of pollution (e.g. animal excreta, rubbish) within 10 m of the well?          | Y/N |
| 4.  | Is the drainage poor, causing non-movement water within 2 m of the well?                                | Y/N |
| 5.  | Is there a faulty drainage channel? Is it broken, permitting ponding?                                   | Y/N |
| 6.  | Is the wall (parapet) around the well cracked, or too low, allowing surface water to enter the well?    | Y/N |
| 7.  | Is the concrete floor less than 1 m wide around the well?   | Y/N |
| 8.  | Are the walls of the well inadequately sealed at any point for 3 m below ground?                        | Y/N |
| 9.  | Are there any cracks in the concrete floor around the well, which could permit water to enter the well? | Y/N |
| 10. | Are the rope and bucket left in such a position that they may become contaminated?                      | Y/N |
| 11. | Does the installation require fencing?  | Y/N |

**Total score of risks** ..... /11

Contamination risk score: 9-11 = very high; 6-8 = high;

3-5 = intermediate; 0-2 = low

## III Results and Recommendations

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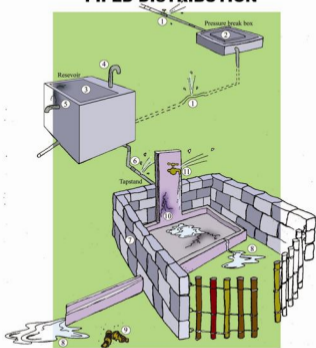


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Signature of Surveyor .....



## PIPED DISTRIBUTION





## 2. PIPED DISTRIBUTION

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |                                 |  |     |
|---------------------------------|--|-----|
| 1.                              | Is there any point of leakage between source and reservoir?                  | Y/N |
| 2.                              | If there are any pressure break boxes, are their covers dirty?               | Y/N |
| <b>If there is a reservoir:</b> |  |     |
| 3.                              | Is the inspection cover dirty?   | Y/N |
| 4.                              | Are any air vents dirty?   | Y/N |
| 5.                              | Is the reservoir cracked or leaking?   | Y/N |
| 6.                              | Are there any leaks in the distribution system?                              | Y/N |
| 7.                              | Is the area around the tap stand unfenced (or fencing incomplete)?           | Y/N |
| 8.                              | Does water accumulate near the tap stand (requires improved drainage canal)? | Y/N |
| 9.                              | Are there human or animal excreta within 10 m of the tap stand?              | Y/N |
| 10.                             | Is the tap stand cracked or eroded?  | Y/N |
| 11.                             | Does the tap leak?   | Y/N |

**Total score of risks ..... /11**

Contamination risk score: 9-11 = very high; 6-8 = high;

3-5 = intermediate; 0-2 = low

### III Results and Recommendations

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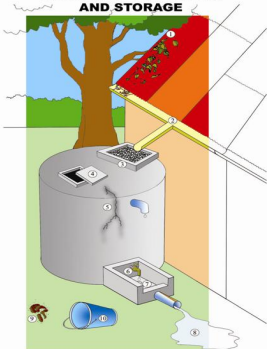


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## RAINWATER COLLECTION AND STORAGE



### 3. RAINWATER COLLECTION AND STORAGE

#### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

#### II Specific Information for Risk Assessment

- |     |  |     |
|-----|--|-----|
| 1.  | Is there any visible contamination of the roof catchments area (plants, dirt, or excreta)?                               | Y/N |
| 2.  | Are the guttering channels that collect water dirty?   | Y/N |
| 3.  | Does the tank inlet not have any mesh sieve or fine gravel?  | Y/N |
| 4.  | Is there any other point of entry to the tank that is not properly covered?  | Y/N |
| 5.  | Are there any cracks on the walls or top of the tank that could let water in?  | Y/N |
| 6.  | Is the tap leaking or faulty?  | Y/N |
| 7.  | Is the concrete floor under the tap dirty?   | Y/N |
| 8.  | Is the water collection area inadequately drained?   | Y/N |
| 9.  | Is there any source of pollution around the tank or water collection area? (e.g. excreta, trees growing beside the tank) | Y/N |
| 10. | Is a bucket in use and left in a place where it may become contaminated?   | Y/N |

**Total score of risks ...../10**

Contamination risk score: 9-10 = very high; 6-8 = high;

3-5 = intermediate; 0-2 =low

#### III Results and Recommendations

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Signature of Surveyor .....



## FILLING STATIONS, TANKER TRUCKS AND HOUSEHOLD DRUMS



## 4. FILLING STATIONS, TANKER TRUCKS AND HOUSEHOLD DRUMS

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

#### *Tanker Filling Station*

- |    |  |     |
|----|--|-----|
| 1. | Is the chlorine level at the filling station less than 0.5 mg/litre?                               | Y/N |
| 2. | Is the filling station excluded from the routine quality control programme of the water authority? | Y/N |
| 3. | Is the discharge pipe dirty?   | Y/N |

#### *Tanker Trucks*

- |    |  |     |
|----|--|-----|
| 4. | Is the tanker ever used for transporting other liquids besides drinking water? | Y/N |
| 5. | Is the filler hole dirty or is the lid missing?                                | Y/N |
| 6. | Is the delivery hose dirty or stored unsafely?                                 | Y/N |

#### *Household Drums*

- |     |  |     |
|-----|--|-----|
| 7.  | Can contaminants (e.g. soil, leaves or other rubbish) enter the drum during filling? | Y/N |
| 8.  | Does the drum lack a cover?  | Y/N |
| 9.  | Does the drum need a tap for withdrawal of water?                                    | Y/N |
| 10. | Is there stagnant water around the drums?  | Y/N |

**Total score of risks ...../10**

Contamination risk score: 9-10 = very high; 6-8 = high;

3-5 = intermediate; 0-2 = low

### III Results and Recommendations

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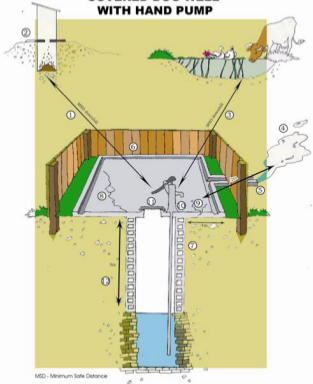


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## COVERED DUG WELL WITH HAND PUMP



## 5. COVERED DUG WELL WITH HAND PUMP

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |     |  |     |
|-----|--|-----|
| 1.  | Is there a toilet within 10m of the well and hand pump?  | Y/N |
| 2.  | Is the nearest latrine on higher ground than the well and hand pump?                                   | Y/N |
| 3.  | Is there any other source of pollution (e.g. animals excreta, rubbish) within 10m of the well?         | Y/N |
| 4.  | Is the drainage poor, causing non- moving water within 2m of the well?                                 | Y/N |
| 5.  | Is there a faulty drainage channel? Is it broken, allowing ponding?                                    | Y/N |
| 6.  | Is the wall or fencing around the well inadequate, allowing animals in?                                | Y/N |
| 7.  | Is the concrete floor less than 1m wide all around the well?   | Y/N |
| 8.  | Is there any ponding on the concrete floor around the hand pump?                                       | Y/N |
| 9.  | Are there any cracks in the concrete floor around the well which could permit water to enter the well? | Y/N |
| 10. | Is the hand pump loose where it is attached to the base allowing water to enter the casing or pipes?   | Y/N |
| 11. | Is the cover of the well unsanitary?   | Y/N |
| 12. | Are the walls of the well inadequately sealed at any point for 3m below ground level?                  | Y/N |

**Total score of risks:** ...../12

Contamination risk score: 9-12=very high; 6-8=high; 3-5=intermediate; 0-2=low

### III Results and Recommendations

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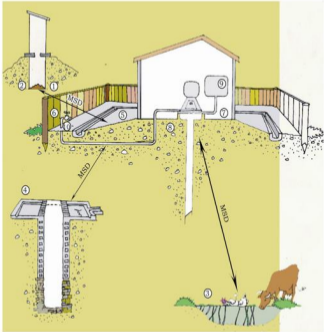


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## DEEP BOREHOLE WITH MECHANICAL PUMP



MSD - Minimum Safe Distance





## 6. DEEP BOREHOLE WITH MECHANICAL PUMP

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |     |   |     |
|-----|---|-----|
| 1.  | Is there a toilet or sewer within 15-20m of the pumphouse?  | Y/N |
| 2.  | Is the nearest toilet a pit toilet that passes through to the soil, i.e. unsewered?                                     | Y/N |
| 3.  | Is there any other source of pollution (e.g. animals excreta, rubbish, and surface water) within 10m of the borehole?   | Y/N |
| 4.  | Is there any uncapped well within 15-20m of the borehole?   | Y/N |
| 5.  | Is the drainage area around the pump house faulty? Is it broken permitting ponding and /or leakage to ground?           | Y/N |
| 6.  | Is the fencing around the installation damaged in anyway which would permit any unauthorized entry or allow animals in? | Y/N |
| 7.  | Is water able to seep through the floor of the pump house?  | Y/N |
| 8.  | Is the well seal unsafe or unsanitary?  | Y/N |
| 9.  | Is the chlorination functioning properly?   | Y/N |
| 10. | Is chlorine present at the sampling tap?  | Y/N |

**Total score of risk:** ...../10

Contamination risk score: 9-10=very high; 6-8=high; 3-5=intermediate; 0-2=low

### III Results and Recommendations

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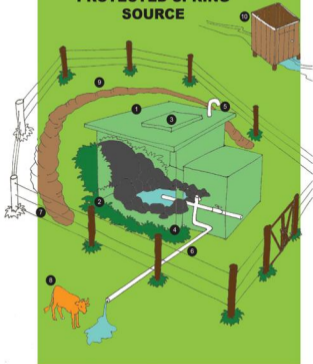


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## PROTECTED SPRING SOURCE



## 7. PROTECTED SPRING SOURCE

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |     |  |     |
|-----|--|-----|
| 1.  | Is the spring source unprotected by stone or concrete wall, or spring box and therefore open to surface contamination? | Y/N |
| 2.  | Is the stonewall protecting the spring source faulty?  | Y/N |
| 3.  | If there is a spring box, is there an unsanitary inspection cover in the stonewall?                                    | Y/N |
| 4.  | Does the spring box contain contaminating silt or animals?   | Y/N |
| 5.  | If there is an air vent in the stone wall, is it unclean or unsanitary?  | Y/N |
| 6.  | If there is an overflow pipe, is it unclean or unsanitary?   | Y/N |
| 7.  | Is the area around the spring unfenced?  | Y/N |
| 8.  | Can animals have access to within 10m of the spring source?  | Y/N |
| 9.  | Does the spring lack a surface water diversion ditch above it, or ( if present) is it nonfunctional?                   | Y/N |
| 10. | Are there any toilet uphill of the spring?   | Y/N |

**Total Score of Risk:** ...../10

Contamination Risk Score: 9-10=very high; 6-8=high; 3-5=intermediate; 0-2=low

### III Results and Recommendations

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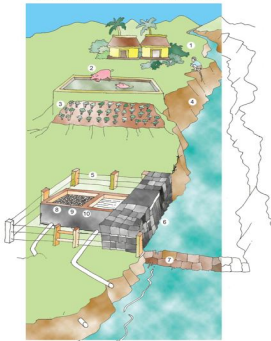


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**SURFACE SOURCE AND ABSTRACTION**



## 8. SURFACE SOURCE AND ABSTRACTION

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |     |  |     |
|-----|--|-----|
| 1.  | Is there any human houses upstream, polluting the source?                              | Y/N |
| 2.  | Are there any farm animals upstream, polluting the source?                             | Y/N |
| 3.  | Is there any crop production or industrial pollution upstream?                         | Y/N |
| 4.  | Is there a risk of landslide or mudflow (causing deforestation) in the catchment area? | Y/N |
| 5.  | Is the intake installation unfenced?   | Y/N |
| 6.  | Is the intake unscreened?  | Y/N |
| 7.  | Does the abstraction point lack a minimum head device (e.g. dam)?                      | Y/N |
| 8.  | Does the system require sand or gravel filter?   | Y/N |
| 9.  | If there is a filter, is it functioning badly?   | Y/N |
| 10. | Is the flow uncontrolled?  | Y/N |

**Total score of risk:** ...../10

Contamination risk score: 9-10=very high; 6-8=high; 3-5=intermediate; 0-2=low

### III Results and Recommendations

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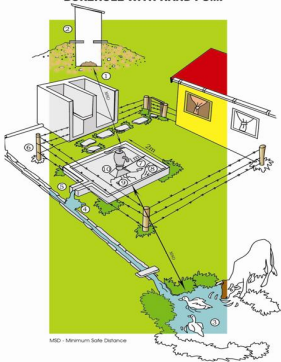


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**BOREHOLE WITH HAND PUMP**



## 9. BOREHOLE WITH HAND PUMP

### I General Information

Province/Village/ Island/ Community: .....

Date: ..... Time: .....

Survey number: .....

### II Specific Information for Risk Assessment

- |     |  |     |
|-----|--|-----|
| 1.  | Is there a toilet within 10m of the hand pump?   | Y/N |
| 2.  | Is there a toilet uphill of the hand pump?   | Y/N |
| 3.  | Are there any other sources of pollution within 10m of hand pump?<br>(e.g. animal excreta, rubbish, surface water) | Y/N |
| 4.  | Is the drainage poor allowing water to collect within 2m of the hand pump?   | Y/N |
| 5.  | Is the drainage channel faulty, cracked or broken, permitting ponding and does it need cleaning?                   | Y/N |
| 6.  | Is the fencing around the hand pump inadequate, allowing animals in?   | Y/N |
| 7.  | Is the concrete floor less than 1m wide all around the hand pump?  | Y/N |
| 8.  | Is there any ponding on the concrete floor around the hand pump?   | Y/N |
| 9.  | Are there any cracks in the concrete floor around the hand pump which could permit water to enter the well?        | Y/N |
| 10. | Is the hand pump loose at the point of attachment to the base so that water could enter the casing?                | Y/N |

**Total Score of Risk:** ...../10

Contamination Risk Score: 9-10=very high; 6-8=high; 3-5=intermediate; 0-2=low

### III Results and Recommendations

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Signature of Surveyor .....





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