

## Lesson Plan 10: Sustainability Planning

 1 hour 15 minutes

### Lesson Description



In this lesson, participants will use the skills and knowledge they have gained throughout the workshop to examine issues of sustainability and conduct an analysis of their current management of the water supply scheme. They will identify strengths and areas to improve, and highlight priority areas for improvement.

### Learning Outcomes



At the end of this session, participants will be able to:

1. Explain sustainability
2. Describe ways to make water supply schemes more sustainable
3. Conduct a strengths and weakness analysis of their water supply scheme
4. Identify priority management areas for improvement

### Materials



- Flip chart paper
- Markers or chalk
- Tape
- Projector
- PowerPoint: Keeping the water flowing – Sustainability of water supply schemes
- Sustainability Assessment handouts (1 of each copy; See end of lesson plan)

### Preparation



- Read and prepare the lesson plan
- Prepare 3-4 blank pieces of flip chart paper and markers
- Prepare PowerPoint
- Print 1 copy of each Sustainability Assessment handout

### Introduction

5 minutes



1. Ask the participants to close their eyes for a moment and relax.
2. Ask them to imagine in their mind the water supply scheme in the future. What does it look like? How is it being managed? What are the characteristics of it? Ask them to try to envision it in their mind.
3. Ask for 2-3 participants to share their ideas. How did they envision the future water supply scheme?

## 4. Present the learning outcomes or lesson description

**What is Sustainability?****15 minutes**

1. Ask the participants: “What do we mean when we say something is sustainable?”
  - a. *Sustainability means it functions, it is being used, it continues over time, its costs are covered, and it does not affect the environment negatively.*

2. As participants volunteer ideas, write their responses on the flip chart or board. Summarize their responses and discuss the key features of sustainability.




3. Display the PowerPoint: Keeping the water flowing – Planning for sustainability of water supply schemes (**Slides 1-2**). Discuss characteristics of sustainability.
4. **Show Slide 3** and describe the graph. It shows the stages of planning for water supply schemes. Highlight the 3 main sections – planning and design, construction, and O&M.
5. Ask the participants: “In an ideal situation, when should people start thinking about sustainability?” – *They should be thinking about sustainability in the planning and design phases. This is ideal so important considerations can be factored into the design and construction.*
6. Point out the arrows in the third O&M stage of the graph. #1-2 represent successful sustainability, with the scheme continuing over time. #3 represents a failure of sustainability, with the scheme’s level of benefits beginning to decline over time.
7. Explain that, in the context of operation and maintenance, the lessons and practice sessions from this workshop will contribute to sustainability. The factors they have explored, and the problem-solving and management skills they have practiced, will all contribute to sustainable operation and maintenance.



8. **Show Slide 4.** Explain to participants that thinking about sustainability is not a separate activity from operation and maintenance. **It must be considered as part of ongoing operation and maintenance to be effective.**
9. **Show Slide 5.** Ask the participants: “Because sustainability is part of effective operation and maintenance, what factors do you think will affect it?” Remind them of the factors they have previously covered.
10. Explain to participants the four factors which affection operation and maintenance are the same factors that will affect sustainability. Proper planning for, and management of these factors will increase the sustainability of the system. This must be done at all times.
11. Highlight the fifth factor which has been added – environment factors. Explain that his is because the quality of the water source, how much treatment it requires, as well as its quantity and consistency are all important for sustainability. The environment may also change – soil erosion, landslides, drought, monsoon, etc. and must be considered and planned for.

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**Sustainability Assessment****50 minutes**

1. Tell the group that you are going to ask them to complete an activity which brings together many of the different skills and knowledge they have practiced throughout this workshop.
2. Explain that you are going to have them complete a sample sustainability assessment of their existing water supply scheme. If they do not currently have a water supply scheme, they should assess their perceived existing level of capacity to manage these aspects.
3. **Show Slide 6.** Explain that you will divide participants into five groups. Each group will be given one of the main areas required for sustainable operation and maintenance.
4. Explain that you will give each group a handout. The handout will have several areas they should analyze. By completing the form they will be able to identify their current areas of strength and weakness in managing this topic.
5. Explain that the form has a checklist and a section to help them think about their scheme.
6. **Show Slide 7.** Tell the participants you want them to think about everything they have learned in the workshop, and to think about the strengths and weaknesses of their current approach.
-  7. Divide participants into 5 groups and give each group one of the handouts. (See end of lesson plan). Ask them to fill out the form, and using a piece of flip chart paper, create a large diagram or table they will use to present to the other groups.
8. Give each group flip chart paper and markers.
9. After 10 minutes, have each group present. Discuss their analysis with the full group.
10. Continue until all groups have presented.

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**Review****5 minutes**

1. In their groups, ask the participants to:
  - Identify 1-2 priority areas for them to focus on to work towards sustainable O&M.
  - Discuss actions they can take to progress in these priority areas.

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**Reflections on Lesson**

## Sustainability Assessment – Environment

### Key questions:

- Is the water source protected? Do you check it regularly?
- Do you test the water quality at source and at access points?
- Is there risk for landslide or falling rocks to damage the system?
- Do people in the community use latrines?
- Is solid waste in the community managed?

### SWOT Analysis:

#### 1. Analysis of the current situation

<p>What are the <b>strengths</b> in terms of operation and maintenance? (See key questions)</p>	<p>What are the <b>weaknesses</b> in terms of operation and maintenance? (See key questions)</p>
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## Sustainability Assessment – Social Aspects

### Key questions:

- Are women involved in design, operation and maintenance conversations, and planning?
- Does the community have a sense of ownership over the water supply scheme?
- Are users of the water supply scheme satisfied with the service and water quality?
- Do people in the community understand the link between water and health?
- Is the system convenient for community members to use?

### SWOT Analysis:

#### 1. Analysis of the current situation

<p>What are the <b>strengths</b> in terms of operation and maintenance? (See key questions)</p>	<p>What are the <b>weaknesses</b> in terms of operation and maintenance? (See key questions)</p>
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## Sustainability Assessment – Technical Areas

### Key questions:

- Is the water supply scheme simple or complex to operate?
- Are spare parts available and stockpiled?
- Have technicians and staff been properly trained?
- Are chemicals available for water treatment, if required?
- Do you conduct preventative maintenance regularly?

### SWOT Analysis:

#### 1. Analysis of the current situation

<p>What are the <b>strengths</b> in terms of operation and maintenance? (See key questions)</p>	<p>What are the <b>weaknesses</b> in terms of operation and maintenance? (See key questions)</p>
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## Sustainability Assessment – Management

### Key questions:

- Do you regularly monitor the system?
- Is technical assistance available, if required?
- Do you communicate regularly with the community and respond to user concerns?
- Do you have a clear committee structure with functioning roles?
- Do you hold regular meetings to discuss planning, finances, and operation and maintenance?

### SWOT Analysis:

#### 1. Analysis of the current situation

<p>What are the <b>strengths</b> in terms of operation and maintenance? (See key questions)</p>	<p>What are the <b>weaknesses</b> in terms of operation and maintenance? (See key questions)</p>
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## Sustainability Assessment – Finances

### Key questions:

- Are users willing and able to pay?
- Do you have a reserve operation and maintenance fund?
- Have you calculated operation and maintenance costs and planned to cover expenses?
- Do you have clear and transparent financial management systems?
- Do you have a tariff, and what costs does the tariff cover?

### SWOT Analysis:

#### 1. Analysis of the current situation

<p>What are the <b>strengths</b> in terms of operation and maintenance? (See key questions)</p>	<p>What are the <b>weaknesses</b> in terms of operation and maintenance? (See key questions)</p>
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