Monitoring Biosand Filter Projects

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12, 2916 – 5th Avenue

Calgary, Alberta, T2A 6K4, Canada

Phone: + 1 (403) 243-3285, Fax: + 1 (403) 243-6199

E-mail: cawst@cawst.org, Website: www.cawst.org

CAWST is a Canadian non-profit organization focused on the principle that clean water changes lives. Safe water and basic sanitation are fundamentals necessary to empower the world’s poorest people and break the cycle of poverty. CAWST believes that the place to start is to teach people the skills they need to have safe water in their homes.

CAWST transfers knowledge and skills to organizations and individuals in developing countries through education, training and consulting services. This ever expanding network can motivate individual households to take action to meet their own water and sanitation needs.

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**Acronyms and Abbreviations**

ATP ask the participants

BSF biosand filter

CAWST Centre for Affordable Water and Sanitation Technology

CHP Community Health Promoter

FC flipchart page to prepare

LFM logical framework model

min minute

mL millilitre

WASH water, sanitation and hygiene

1 Introduction

This Trainer Manual is to support people who deliver consulting services on Monitoring for Biosand Filter Project Implementers. It is based on CAWST’s experience and lessons learned from implementers worldwide.

This manual provides background on how and why this service was developed, tips to help you plan for a successful consultation, and several tools to help deliver your training, such as monitoring forms, checklists, lesson plans and case studies. It is recommended that you adapt the tools to suit your style and the needs of your audience.

Monitoring is essential to ensure quality biosand filter distribution and use throughout the life of the project and beyond. The 5 day training described in this Trainer Manual gives you the knowledge and tools needed to teach others how to successfully prepare a monitoring plan and put it into action for their biosand filter projects.

#

2 Training Overview

This training offers instruction and hands-on experience for participants in understanding the basics of monitoring; how to plan for monitoring; and how to effectively put it into action. Participants will gain a clear understanding of practical methods to effectively monitor their biosand filter projects for continuous improvement. The overall objective of monitoring is to implement successful projects and ultimately maximize the health impact of their target population.

These 5 working days include practical field experience, discussion and development of functional tools on the following topics:

* Logical Framework Model (LFM)
* Performance indicators
* Collecting and analyzing information
* Resolving problems
* Making improvements
* Establishing a baseline
* Information management
* Logistics
* Resourcing
* Communication
* Timeline
* Budgeting

A deeper understanding and the applicability of these topics is essential for the overall success of a biosand filter project.

This training does not include water quality testing. Please refer to CAWST’s Introduction to Water Quality Testing training materials if you need to teach this topic to implementers.

Sharing experiences and learning from each other are integral in developing project specific monitoring plans. The training was designed to be done with one organization at a time since the activities are to develop project specific monitoring. Therefore, participatory approaches are used to engage and actively involve everyone in each of the sessions. Much of the content of each session is delivered through direct use, activities, group discussions and case studies.

This training is delivered with the understanding that participants will need follow up mentoring and coaching afterwards as they develop and practice their new tools and skills. As an aid to this mentoring and coaching process, CAWST has developed a competency validation process for Biosand Filter Technicians and Community Health Promoters. The process has been documented and includes forms for candidate self-assessment, validator assessment and action planning for each of these roles.

3 Workshop Planning

The following activities are helpful to get started with training planning and organizing the logistics.

##

3.1 Identify the Planning Team

Many decisions must be made and work done leading up to the training, and you will find it helpful to have a team to handle many of the details. The training planning team should include people who are:

* Familiar with the subject matter and training materials
* Familiar with the participants that will be attending
* Knowledgeable about the training site

3.2 Fit Training into a Broader Plan

Training is just one element and makes the most sense when it is part of an organization’s plan to build and support their monitoring capacity. Providing follow up and on-going support to the organizations’ staff and the end users is crucial to successfully implement the knowledge gained and tools developed.

3.3 Select Trainers

To be an effective trainer for this training, the following knowledge, skills and attitudes are necessary.

**Knowledge.** This manual is designed for trainers who have expertise in the subject matter and knowledge regarding the background of the participants, including:

* The learning environment
* Communication
* Educational practices
* Culture
* Organizational history and structure
* Project objectives and activities

**Skills.** This manual assumes that you have experience in planning and organizing trainings and are comfortable with group facilitation. An effective trainer uses various facilitation skills to:

* Help people feel comfortable with participatory learning
* Encourage people to share information, ideas, concerns and knowledge
* Communicate clearly
* Manage group dynamics and resolve conflicts
* Keep the training practical and relevant

**Attitude.** You should aim to create a positive learning environment for all participants. This is achieved in part by your approach and manner, such as being:

* Friendly, open and approachable
* Objective
* Respectful
* Aware of cultural differences
* Gender sensitive
* Culturally and status sensitive

Any multi-day training is a big responsibility. You may want to have several co-trainers to share the workload. Especially if you have a large number of participants or if there is a plan to include Water Quality Testing in the monitoring plan.

It can also be helpful to have past participants or local experts on a topic to participate in the training. Always discuss with them beforehand about your expectations and be sure that they understand their role and time commitment.

3.4 Select Participants

As this is a training designed to be delivered with only one organization it is up to the organization to determine who will participate. Here are some guidelines to specify to the organization to help them make their choices:

1. 12 people maximum
2. Staff representing each area and level of responsibility including: Biosand Filter Technicians, Community Health Promoters, Trainers, Information Managers, Supervisors and Management
3. If possible 1 or 2 community members that support the project will also be helpful (e.g. community leaders or members that are involved in improving their community)
4. Must be present 100% of the time – not pulled in and out of the sessions

You should be clear about who will be in the training before it begins. Understanding your audience is an essential first step to facilitating a successful workshop. The following questions will help you conduct a needs assessment of your participants. The information will help you adapt the content of the workshop if necessary and select relevant learning activities:

* Why are the participants attending?
* What prior knowledge might they have about monitoring?
* What are their learning expectations?
* What range of experience is likely to be represented?
* Do they have any biases against the organization or the roles they may play in monitoring?
* What role will they or could they play in monitoring?
* What is the history and operations of the project in question?

A pre-workshop questionnaire can be used to help you better understand the background of your participants and their expectations. It is often the case that participants don’t complete the questionnaire in advance. The planning team may need to follow up with participants to encourage them to submit their responses.

In the absence of information beforehand, the training opening session includes time for you to help determine the participant’s prior knowledge, experience and learning expectations. You may need to be flexible in adapting the training agenda to meet their needs.

3.5 Identify the Training Organizer

The organization is hosting the training and has a number of responsibilities, from helping to select the venue to planning extra-curricular events.

Here are the key characteristics of an effective training organizer:

* Will be motivated to use the training to increase its staff’s knowledge and skills
* Will find a good venue for the training
* Will print the training materials
* Will be in charge of organizing the participants
* Will provide a translator (if needed)
* Will provide accommodation and local transport for trainers
* Has a good reputation and is well-known in the country/town
* Is available and willing to help you with logistics during the training
* Has the authority to make decisions regarding the training (no need for approval at higher level)
* Has organized household visits and production site visits in advance
* Communicates with you in a timely and honest way
* Is someone you can trust

4 Training Preparations

There are several things that will need to be done to get ready for the workshop.

4.1 Trainer Roles and Responsibilities

It is essential that the training team works well together. You should meet with the other trainers before the training to discuss the agenda and then assign the roles and responsibilities. It is also useful to clarify the role of the other trainers when they are not actually conducting a workshop session – are they assisting in the group work or be available to answer questions or be setting up for the next session? Where possible, ensure that all the trainers can be present for the entire workshop.

4.2 Training Logistics

The training team will need to determine the following training logistics. Because this is hosted and participated by the same organization, many of the responsibilities should be placed with the organization.

**Pre-training**

* What is the budget?
* Who will invite the participants and communicate with them?
* Who will organize and coordinate food and accommodation?
* Who will manage participant travel?
* Who will organize the training site and set up?
* Who will purchase and organize the training equipment and materials?
* Who is responsible for printing Participant Manuals?
* Who is responsible for training each session in the agenda?
* Who is responsible for organizing the field visits? (See Lesson Plan 24 for considerations.)

**During the training**

1. Who will check that snacks and food are ready at the appropriate times?
2. Who will prepare the room in the morning and reorganize in the evening?
* Who will prepare the flipcharts for the day?
* Who is in charge of checking participant list details?
* Who is in charge of preparing evaluations, certificates and CDs?
* Who will make sure that all the materials are ready for the next day?

**Post-training**

* Who will type up the workshop evaluations and final report?
* Who will clean up the workshop materials and space?
* Who is responsible for replacing materials if needed?
* Who is responsible to maintain communication with the participants?

4.3 Organizing Field Visits

Field visits are an integral part of this training. They will include household and production site visits. There are a few things to consider in order to get organized in advance.

* Need transport to and from the sites/communities for all the participants
* Organize snacks and water if necessary
* Let the households and production site staff know there will be groups visiting
* Organize a spot to have a discussion in the community before the groups go out to practice
* Be sure to collect all the forms at the end of the collection period so they don’t get lost overnight.

4.4 Translations and Interpreters

The materials may need to be translated and an interpreter may be required if the participants do not speak English or French as their first language. It is common for participants to overstate their English comprehension. This is often out of embarrassment and not wanting to look bad in front of others. If there is any doubt, you should translate the training materials and use an interpreter for the training to make sure that all participants have equal opportunity to fully understand the content.

Using an interpreter takes more time than if you are delivering the workshop in one language. You will likely have to adjust the workshop agenda to account for the extra time required.

Some tips for working with an interpreter include:

* Try to find an experienced interpreter who is known and trusted by the organizer
* Give them a copy of the training materials to review in advance of the workshop, including the participant manual, trainer manual and PowerPoint presentations
* Meet at least 1 day before the workshop to discuss their role, review the agenda and learning activities, and ensure that they understand the content and key vocabulary
* Practice using microphones and headsets if simultaneous interpretation is going to be used
* Ask them to write out the flipchart headings in the local language in advance
* Include them in the end of day debrief meetings and ask for their feedback

4.5 Room Set Up

If possible, visit the training site before the participants are due to arrive and set up your electrical equipment and materials. Try to identify potential sources of distraction in the room, both to yourself and participants, and make changes to mitigate them.

Seating arrangements have a big influence on the training. It is recommended to arrange the tables and chairs so that participants can make eye contact with one another and can break into small groups easily. Participants will also need to be able to view the people speaking, flipchart posters and PowerPoint slides.

4.6 Equipment and Materials

You will need to gather and bring the following materials and equipment to the workshop.

|  |  |
| --- | --- |
| **Equipment:** | **Materials:** |
| * Computer
* Projector
* Extension cord(s)
* Camera
* Backup battery
* Power adapter
 | * Name tags
* Markers
* Pens
* Paper
* Flip chart or large pieces of paper
* Tape or sticky tack
 |

*Refer to the lesson plans for equipment and materials required for individual sessions.*

4.7 Participant Manuals

You will need to decide where and when the Participant Manuals will be printed and who will manage the production.

There may be other resources that participants will need during the workshop that are included with the corresponding lesson plans. All the PowerPoint slides that you plan on using should be reproduced as handouts and included in the manuals so that participants do not need to take notes during the presentations.

You will also need to determine if any adjustments to language, concepts or materials are required based on the participant’s need assessment.

5 How to Use This Manual

This section explains the 5 day agenda and individual sessions that have been developed to meet the participant learning expectations.

5.1 Learning Expectations

The following learning expectations list what the participants will be able to do by the end of the training to demonstrate increased knowledge, improved skills, or changes in attitude. Each lesson plan refers to the specific learning expectations. The lessons that the trainer chooses should demonstrate the need of the organization.

**Participant Learning Expectations**

| **Lesson Plan #** | **Lesson Plan** | **Learning Expectations** |
| --- | --- | --- |
| 1 | Training Introduction | 1. Establish how the group is expected to work together during the workshop.
2. Record the group expectations for the workshop.
3. Describe CAWST’s and/or your organization’s role and mission.
 |
| 2 | Introduction to Monitoring | 1. Explain the similarities and differences between monitoring and evaluation.
2. Discuss the components of a monitoring plan.
 |
| 3 | Logical Framework Model and Purpose | 1. Describe the Logical Framework Model and the expected results of a project.
2. Illustrate how monitoring fits into the overall expected results of a project.
3. Develop the organizational purpose for monitoring the project.
 |
| 4 | Indicators | 1. Explain what an indicator is and their function.
2. Adapt CAWST indicators to meet project objectives.
 |
| 5 | Establishing a Baseline | 1. Explain the importance of establishing a baseline.
2. Plan how to collect baseline information for BSF production, post installation and WASH follow up.
3. Adapt an example baseline survey to meet the needs of the organization.
 |
| 6 | Setting SMART Targets | 1. Explain what a SMART target is and its function.
2. Develop project specific targets for each indicator.
 |
| 7 | Collecting Information – What to Collect | 1. Explain how to determine what information is necessary to collect.
2. Create lists of necessary information to collect based on project indicators.
 |
| 8 | Collecting Information – Techniques | 1. Explain the components of an effective monitoring question.
2. Describe and demonstrate proper questioning techniques to maintain reliability of information collected.
3. Describe and demonstrate proper responses of interviewers when they find unacceptable results.
 |
| 9 | Collection Methods and Maintaining Reliability | 1. Compare the advantages and disadvantages of different collection methods.
2. Describe how to avoid errors that compromise the reliability of information: bias, non-response, culture, status, trust, technique.
3. Explain how to create an environment of trust and learning to prevent biases or altered results
 |
| 10 | Field Debrief – Household Visits | 1. Discuss household visit experience.
2. Analyze monitoring forms to anticipate causes of potential issues at collection.
 |
| 11 | Field Debrief – Production Sites  | 1. Discuss experience of production site visits.
2. Map out logistical and resource needs for collecting information.
 |
| 12 | Analysis and Improvements - Situational  | 1. Explain the process of analysis and making improvements in monitoring.
2. Demonstrate analysis of situational pieces of collected information.
3. Recommend how to make improvements by fixing an identified problem and improving process and capacity to prevent the problem from continuing.
 |
| 13 | Analysis and Improvements – Group Trend | 1. Demonstrate how to transfer information from a monitoring form to a tally sheet.
2. Demonstrate how to create a graph (on paper or computer) from the tally sheet.
3. Demonstrate how to analyze a graph to identify problems.
4. Demonstrate the process of making improvements based on the problems identified to the project.
 |
| 14 | Analysis and Improvements – Long Term Trend | 1. Demonstrate how to graph long term trends.
2. Compare group trend and long term trend information.
3. Demonstrate analysis and making improvements based on long term trends.
 |
| 15 | Revising Monitoring Forms | 1. Analyze how monitoring forms connect to project output indicators.
2. Modify monitoring forms to meet project needs.
 |
| 16 | Information Management | 1. Identify possible roles involved in monitoring activities.
2. Create a map of the processes for information to flow from collection to analysis to making improvement (fixing problems and building processes and capacity).
 |
| 17 | Communication | 1. Create a list of key information to be communicated, to whom, and methods to do so.
2. Create a work plan for those involved in communication.
 |
| 18 | Logistics and Resourcing | 1. Discuss and plan for the logistical needs necessary for monitoring activities.
2. Discuss and plan for the resources needed for all monitoring activities: human, material, financial.
 |
| 19 | Roles, Responsibilities and Capacities | 1. Define the key roles for each stage of monitoring.
2. Identify the responsibilities of each role.
3. Identify people to fill each role and assess their capacity.
 |
| 20 | Timeline and Growth | 1. Create a table to visualize monitoring timeline and resource needs with project growth.
 |
| 21 | Budgeting | 1. Create a list of costs associated with monitoring.
2. Estimate actual costs of monitoring.
 |
| 22 | Monitoring Plan | 1. Create a plan with all of the key parts of monitoring activities.
2. Discuss how to integrate monitoring into existing project activities.
 |
| 23 | Closing | 1. Review all topics covered.
2. End of workshop self-assessment.
3. Review learning expectations to see if they were met.
4. Complete a final evaluation of the workshop.
 |

5.2 Training Agenda

The general framework of the workshop is as follows:

* **Workshop opening and introductions**. To welcome people and allow participants and trainers to get to know one another. Example opening activities are provided in Lesson Plan 1 – Workshop Introduction.
* **Individual sessions.** To focus on a selected topic. Each individual session includes an introduction, a main lesson, and a closing activity to review the content.
* **Breaks and lunch.** To keep people working and feeling positive, breaks are needed. Plan for a mid-morning and mid-afternoon break that allows people to use the washroom, take a drink or eat a snack. While planning your workshop, it is also important to clarify with participants in advance as to whether or not food and snacks will be provided.
* **Opening of day and End of day Review Activities.** To gain feedback from the participants and to clarify any areas of uncertainty. Example review activities are provided in Appendix 3 - Tools.
* **End of workshop closing.** The end of the workshops can be official or unofficial depending on what is appropriate. Certificates are typically handed out.
* **End of workshop evaluation.** To allow participants to assess the strengths and weaknesses of the workshop for further improvement. A workshop evaluation template is provided in Appendix 1.
* **Trainers’ debrief.** A daily exercise to discuss what went well, what areas of the day can be improved and what needs to be done for the next day and in the future. Debriefs are held at the end of the workshop.

A 5-day training agenda is provided for use in developing countries. The 5-day agenda allows participants to have more time to practice building their experience with the new techniques and allow for the extra time it will take to arrange logistics of the field visits.

**5 Day Agenda – Monitoring Biosand Filter Projects (Developing Country)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Time** | **DAY 1** | **DAY 2** | **DAY 3** | **DAY 4** | **DAY 5** |
| **1 hour 45 minutes** | * Training Introduction
* Introduction to Monitoring
 | * Review (15 minutes)
* Field Debrief– Household Visits
 | * Review (15 minutes)
* Field Debrief– Production Sites
 | * Review (15 minutes)
* Logic Framework Model and Purpose of Monitoring
* Indicators
 | * Review (15 minutes)
* Logistics and Resourcing
* Roles, Responsibilities and Capacity
 |
| **15 min** | **BREAK** | **BREAK** | **BREAK** | **BREAK** | **BREAK** |
| **1 hour 30 minutes** | * Information: What to Collect
* Information: Questioning Techniques
 | * Collection Methods and Maintaining Reliability
 | * Analysis and Improvements - Situational
 | * Establishing a Baseline
* Setting SMART targets
 | * Timeline and Growth
* Monitoring Budget
 |
| **1 hour**  | **LUNCH** | **LUNCH** | **LUNCH** | **LUNCH** | **LUNCH** |
| **1 hour 30 minutes** | * **Field** visit using CAWST Monitoring Forms
* Household visits demo
 | * **Field** visit using CAWST Monitoring Forms
* Filter installation, sand prep and box production on site demo and discussion
 | * Analysis and Improvements – Group Trend
 | * Revising Monitoring Forms
 | * Monitoring Plan – Putting it all together
 |
| **15 min** | **BREAK** | **BREAK** | **BREAK** | **BREAK** | **BREAK** |
| **1 hour 45 minutes** | * **Field** visit using CAWST Monitoring Forms
* Groups doing 3-4 visits themselves
 | * **Field** visit using CAWST Monitoring Forms
* Groups doing the monitoring themselves
 | * Analysis and Improvements – Long Term Trend
 | * Information Management
* Communication
 | * Reviewing, improving and expanding monitoring
* To Do List
* Final questions, next steps
* Evaluation and Closing
 |

Lesson Plan 1: Training Introduction **60 minutes total**

**Learning Expectations**



1. Discuss and record how the group is expected to work together during the workshop.
2. Discuss and record the group expectations for the workshop.
3. Describe CAWST’s and/or your organization’s role and mission.

**Materials**

****

* Flipchart paper
* Sticker dots
* Markers
* 3 Balls
* Name Tags
* Pens (1 per person)
* Printed Materials
* Computer and Projector
* Notebooks or paper (1 per person)

**Preparation**



* Write the session Learning Expectations on flipchart paper
* Write up the agenda for the day on flipchart paper
* Prepare the self-assessment flipchart – See Self Assessment section
* Write the heading Group Learning Expectations on flipchart paper
* Write the heading Group Agreements on flipchart paper
* Organize a Participant Manual, notebook, name tag and pen at each seat (1 per person)
* Prepare the materials needed for the Icebreaker Activity

**Introduction 20 minutes**

****

1. Introduce trainers, hosts and other guests as appropriate.

****In some countries, a formal welcoming ceremony will start the workshop. Consult with your host beforehand to determine the protocol and the amount of time required. You may need to adjust your agenda accordingly.

1. Review agenda for the day.
2. Training logistics - ask host if there is anything that needs to be communicated.
3. Explain: Building/training layout, bathroom location, emergency exits, first aid, and daily schedule.
4. Lead an icebreaker activity to help participants build as a team and break the ice. See options below for suggested icebreakers.

**Option A - Icebreaker**

1. Use tent card or paper, ATP to write down how they an interesting fact or brief story about themselves that the other participants probably don’t know but not to put their names on the cards.
2. Collect and redistribute the cards. ATP to find stand up, mingle and find out which person their card belongs to.
3. When they are ready, ATP to introduce the person they found. Give each participant a chance to expand and to explain why they have come to the workshop.

**Option B - Icebreaker**

1. Use tent card or paper, ATP to write down how they used to play as a child but not to put their names on the cards.
2. Collect and redistribute the cards. ATP to find stand up, mingle and find out which person their card belongs to. As an adaptation, you can ATP to not use words, but actions to try and find their person.
3. When they are ready, ATP to introduce the person they found. Give each participant a chance to expand and to explain why they have come to the workshop.

**Option C - Icebreaker** (Good activity for groups that already know each other)

1. Participants write down two things that are true and one thing that is untrue about themselves. Inform participants not to put their names on the paper.
2. Collect all papers and each participant picks out one piece of paper.
3. Participants guess who the person is and which statement is false on the card.

**Group Agreement – Making Ground Rules 5-10 minutes**



1. Explain that making ground rules are agreements created by the group that will allow everyone to learn together.
2. ATP to reflect on their past training or learning experiences. What made those experiences so positive? Negative?
3. ATP to suggest ways to create a positive learning environment for everyone. Write the expectations on a flipchart paper.
* Respect, ask questions, silence cell phones, punctuality
1. Explain that any other expectations can be added through the workshop.
2. Place the flipchart in a prominent place to be seen throughout the workshop.

**Self Assessment 10 minutes**



1. Write on a piece of flipchart paper 10 key topics of the workshop that you plan to cover with a scale written beside each topic. For example:



Collecting Information

Finding Problems and

Making Improvements

Indicators

Logical Framework

Model







1. Explain that this is a tool to assess what knowledge and skills we have before starting the workshop. Discuss how it is OK for people to have little or no knowledge of a topic at the start of the workshop. The goal of the workshop is to help each person move up on the scale.
2. ATP to place a dot along the line based on where they think they are at the moment. Use one color dot for the beginning of the workshop and another color at the end of the workshop.

**Group Expectations 10 minutes**



Discuss how there is a range of understanding among the participants and the importance of a common base of knowledge. Some of the material that will be presented may be new for some and repetition for others. It is helpful for participant’s who have more knowledge or experience to share with the group.

1. ATP to list what they hope to learn or expect during the training. Record people’s expectations on a piece of large paper as they list them.
2. Review the list and identify the expectations that you will be covering during the workshop.
3. If there are things that are outside the scope of the workshop, explain that they will not be discussed. Offer any alternatives for discussing those topics if they are relevant, such as websites, research papers, and names of other organizations.

**Format & Agenda 10 minutes**



1. Discuss the CAWST philosophy for training and learning:
	* Experiential, hands-on and learn by doing
	* Individual and group activities
	* Case studies and learning from others’ experience
	* Open discussion, questions and answers
	* Develop a sense of community and network within group
2. Review daily agenda with break and lunch times.
3. Introduce the Participant Manual.
4. ATP if they have any questions at this point?

**Reflections on Lesson**

Lesson Plan 2: Introduction to Monitoring **35 minutes total**

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**Learning Expectations**



1. Explain the similarities and differences between monitoring and evaluation.
2. Discuss the components of a monitoring plan.

**Materials**

* Flipchart paper
* Markers
* Tape
* Monitoring Plan Template
* Monitoring Plan Example

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *TO DO List*
* Prepare a flipchart with the heading: *Monitoring vs. Evaluation*
* Print copy of Monitoring Plan Template for each participant
* Print copy of Monitoring Plan Example for each participant
* Read section 1 and 2 of the Participant Manual.

**Introduction 5 minutes**



1. ATP to find two objects in the room that are the same but different.
2. ATP to describe to two different people how they are the same and how they are different.
3. Present learning expectations.

**Monitoring Versus Evaluation 15 minutes**

1. Divide the participants into 2 groups. Explain that each group has 5 minutes to put together a role play to represent Monitoring or Evaluation. Assign one of the groups Monitoring and the other Evaluation.
2. Ask the Monitoring group to present their role play and then the Evaluation group.
3. Discuss briefly what was the same and what was different between the role plays. Record responses on the FC: *Monitoring vs. Evaluation*
* *Monitoring: ongoing, day to day, week to week, for improving, checking in, resolving the small problems before they get big*
* *Evaluation: at one time in the project, review of the success of all the activities, did the project meet its goals, could there have been a better way to do things?*

**Monitoring Plan 10 minutes**



1. Divide the participants into pairs. Ask the pairs to discuss what they think should be in a monitoring plan.
2. ATP to share with another group and discuss their similarities and differences.
3. Hand out the Monitoring Results Measurement Table Template. ATP to compare their list with the template.
4. Explain that there may be more things that they would include, but the template has the minimum that CAWST recommends for a monitoring plan.

The form is an outline of all the activities that will have to take place to monitor their project. There may be additional details needed to put the plan into action.

1. Explain that by the end of the training, the goal is to fill in the plan for the organization with as many details discussed and decided as possible.
2. Hand out the Monitoring Plan Example for them to use as a guide while completing their own plan.
3. Explain that a “To Do” list will be put on the wall and used to keep track of things that need follow up or completion after the training.

**Review 5 minutes**

1. ATP to think of 3 words related to monitoring.
2. ATP to share with the person beside them.

**Reflections on Lesson**

**Project Results Management Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Name** |   | **Project** **Manager** |  | **Duration** |  |
| **Area of** **Monitoring**  |  | **Budget** |  |  |  |

|  |  |
| --- | --- |
| **Expected Result** | **Indicator** |
| **Impact *(Long term)*** |  |
| **Outcome *(Medium Term)*** |  |

| **Expected** **Results** | **Indicators** | **Baseline Data** | **SMART** **targets** | **Information Source**  | **Collection** **Methods**  | **Frequency**  | **Responsibility**  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Output 1** |  |  |  |  |  |  |  |
| **Activity 1.1** |  |  |  |  |  |  |  |
| **Output 2** |  |  |  |  |  |  |  |
| **Activity 2.1**  |  |  |  |  |  |  |  |
| **Activity 2.2**  |  |  |  |  |  |  |  |
| **Activity 2.3**  |  |  |  |  |  |  |  |
| **Activity 1.4** |  |  |  |  |  |  |  |
| **Output 3** |  |  |  |  |  |  |  |
| **Activity 3.1** |  |  |  |  |  |  |  |
| **Activity 3.2** |  |  |  |  |  |  |  |

Lesson Plan 3: Logical Framework Model and Purpose

 **30 minutes total**

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**Learning Expectations**



1. Describe the Logical Framework Model and the expected results of a project.
2. Illustrate how monitoring fits into the overall expected results of a project.
3. Develop the organizational purpose for monitoring the project.

**Materials**

* Flipchart paper
* Markers
* Tape

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Logical Framework Model*
* Draw the following chart on the *Logical Framework Model* flipchart
* Prepare a flipchart with the heading: *Why Monitor?*
* Read section 2 of the Participant Manual

**Introduction 3 minutes**



1. ATP to write down a goal that they would like to accomplish in 10 years, in 3 years and this month.
2. ATP to share their goals with a partner.
3. ATP to discuss what they will have to do in order to accomplish their goal for this month, in 3 years and in 10 years.
4. ATP to discuss what is the value in setting goals?
5. Present learning expectations.

**Logical Framework Model 20 minutes**

1. ATP what kind of goals does a project make.
2. Explain that one method of organizing the project’s goals is to use a Logical Framework Model (LFM).
* *Used in project planning to set the long, medium and short term goals of a project*
* *Used as a guide to gauge project success*
1. Put up the FC: *Logical Framework Model.* Explain each part of the model and fill in the information.

|  |  |  |  |
| --- | --- | --- | --- |
| The impact is the long term goal of the whole project. | Medium (3-5 year) expected results.  | Short term expected results of the project activities. | Specific actions that are carried out to achieve particular outputs. |
|  |  |  |  |

1. ATP to discuss what parts of the LFM monitoring focuses on to measure success.
* *Outputs and activities*
* *Monitoring focuses on measuring the success of day to day and week to week activities*
1. ATP to discuss what evaluation focuses on to measure success.
* *Outcomes and impact*
* *Evaluation focuses on measuring the success of the medium and long term results*
1. Add the following figure to the flipchart page to show where monitoring and evaluation fit into the LFM. ATP to then pair share (See explanation below.) how monitoring and evaluation are different.

**Focus of EVALUATION**

Are we doing the **right things**?

**Focus of MONITORING**

Are we doing things **right**?

**Pair Share**



Pair sharing is a training technique that can be used at any point when questions are being asked for making connections, clarifying understanding or reviewing information.

It is an activity between two people and is actually called a Think, Pair, Share. You first explain that you are going to ask a question and you want each participant to think of their answer without saying anything out loud. You ask the question and then give them a few moments to think. You then ask the participants to turn to their partner and ask them to share what they thought of.

This is a technique used to ensure that each participant has a chance to process the question and then has a voice to explain what they were thinking in a safe environment of two. This helps to prevent asking a question and having only one person answer the question or putting people on the spot. This is to ensure that every brain is participating and that everyone feels comfortable before discussing as a whole group.

**Purpose of Monitoring 10 minutes**



1. Divide the participants into groups of 3-4.
2. ATP to discuss in their groups why their organization wants to monitor.
* *On-going check in with the day to day, week to week activities*
* *Correcting what is not working in production, operation and maintenance*
* *Feeding information back to manufacturers on product quality*
* *Increasing staff capacity*
* *Improving education of end-users*
1. Share as a whole group. Record responses on the FC: *Why Monitor?*

Conclude that **monitoring is for improvement** to make the project the best it can be and have the greatest impact possible. Put up the flipchart on the wall to refer to later why they are going to monitor their project.

**Review 2 minutes**

1. ATP to pair share why monitoring is important for their specific role in the organization.
2. Share a few thoughts as a whole group.

**Reflections on Lesson**

Lesson Plan 4: Indicators **60 minutes total**

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**Learning Expectations**



1. Explain what an indicator is and their function.
2. Adapt CAWST indicators to meet project objectives.

**Materials**

* Flipchart paper
* Markers
* Tape
* List of CAWST’s suggested biosand filter project indicators – Table 3.1 in the Participant Manual
* Blank table for setting SMART targets

**Preparation**

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* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Indicators* and write the following definition and example
* *A measure (without a target or directionality) that describes how close an activity is achieving its goals.*

*Example: % properly operating filters one month post installation*

* Print list of CAWST’s suggested biosand filter project indicators – Keep one as the Master List
* Read section 3 of the Participant Manual

**Introduction 5 minutes**



1. ATP to list three things their teachers used to check that they were a successful student.
2. In pairs, ATP to share the ways their teachers would monitor them.
3. Present learning expectations.

**Choosing and Adapting Indicators 50 minutes**



1. ATP what an indicator is.
2. Put up the *Indicators* flipchart and ATP to compare their explanation with this one.
* *A measure (without a target or directionality) that describes how close an activity is achieving its goals.*

*Example: % properly operating filters one month post installation*

Explain that a project needs a list of indicators to know if the activities are successful. Therefore, indicators are needed for all the project outputs and activities.

1. Divide the participants into groups of 3-4. Hand out CAWST’s list of indicators. Have one copy with you that will be the master copy for the changes they will do.
2. ATP to go through the list and identify which indicators are important for their project. Put a star besides the ones that are NOT (as there will be less of those).
3. Share as a group any of the indicators that are not appropriate for their project. If in agreement, cross them out. Mark this on the master list.
4. In small groups, ATP to go through the list of indicators they are keeping and discuss if they need to be changed in any way to better fit their project. Discuss as a whole group and mark the changes on the master list.
5. Explain the need for a mix of quantitative and qualitative indicators. ATP what the difference between quantitative and qualitative is.
* *Quantitative – information measured on a numerical scale – e.g. 400 mL/min flow rate, 5 cm standing water*
* *Qualitative – any information that is not numerical – e.g. storage container is clean and situated in a safe location to avoid contamination, latrine is clean and well maintained, the end users are very happy with the quality of water they are getting from the filter*
1. ATP to go through the list of their chosen PI and mark which indicators are quantitative (QN) and qualitative (QL). Ensure there is a combination of the two types.

**Review – Finger Check 5 minutes**



**See explanation below if this is a new technique for you.**

Finger Check Responses: 1 = yes; 2 = no

1. Functions of Indicators for Monitoring:

A: Measure of success

* *Yes, it measures the success of the objectives of activities and outputs*

B: To identify impact of a project

* *No, it monitoring does not go to the level of looking at impact*

C: To determine information that is necessary to collect

* *Yes*

D: Contains targets and parameters

* *Not unless it is SMART, otherwise it is directionless and does not include targets*

E: Can be used in many other situations: school, work, home ☺

* *Yes*

**Finger Check**



The finger check is a training technique that can be used at any point when questions are being asked or statements being made for making connections, clarifying understanding or reviewing information. This technique is used to ensure that each participant participates in the activity and allows the trainer to gauge the level of understanding of each individual in the group.

*For example: Functions of Indicators for Monitoring*

The participants are given a set of options for responses.

*For example: Yes or No.*

Each response is given a number that corresponds to a number between 1 and up to a maximum of 10.

*For example: Yes = 1 and No = 2*

Once you ask the question or make the statement, the participant makes their choice by showing you that number of fingers.

*For example: A function of indicators for monitoring is to measure success. If the participant thinks yes it is they would hold up one of their fingers. If they think no, they would hold up two fingers.*

**Reflections on Lesson**

Lesson Plan 5: Establishing a Baseline **45 minutes total**

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**Learning Expectations**



1. Explain the importance of establishing a baseline.
2. Plan how to collect baseline information for BSF production, post installation and WASH follow up.
3. Adapt an example baseline survey to meet the needs of the organization.

**Materials**



* Flipchart paper
* Markers
* Tape
* Blindfolds (1 for every 2 participants)
* Set of blank monitoring forms
* Baseline survey example

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Baseline Plans*
* Print baseline survey example – 1 per group
* Draw the two graphs in the **Baseline** section on flipchart
* Read section 4 in the Participant Manual

**Introduction 10 minutes**



1. If possible do this activity outside. Divide the participants into pairs and then put those pairs into 3 groups: A, B and C.
2. ATP to decide which one of the pair will be blindfolded.
3. Across the yard from where they are standing, draw a large circle (1 metre in diameter) on the ground. Draw a smaller circle inside the big circle. Explain this is where they are trying to get to. Explain that their partner is only there for protection, NOT to guide them.
4. ATP to put on their blindfolds. Ask their partners to move them to a different spot and turn them in a circle 3 times.
5. Explain that Group A will stay blindfolded from start to finish.

Explain that Group B will start blindfolded, start walking and get to stop once to look where they are going along the way.

Explain that Group C gets to look now when they start, then look every 3 steps along the way.

1. Let them walk until Group C makes it to the circle and then stop everyone where they are. ATP to remove their blindfolds and look where they ended up.
2. ATP where they started?
* *A - no idea, B - no idea, C - point*
1. ATP looking back what was their path to where they are standing now.
* *A - no idea, B - point out path, C- point out path.*
1. If this represents different ways to manage a project, ATP which group had the most successful and complete picture of their project and why?
* *C –They could see where they were starting from and got to check where they were once in a while.*
1. ATP what the big circle and little circle represent.
* *Big – Expected results*
* *Little – Specific targets*
1. Present learning expectations.

**Baseline 15 minutes**



1. ATP to think about the importance of knowing where you are starting from in a project. Share as a group. Explain that this is called a baseline.
2. ATP to discuss the importance of knowing the specific desired results in a project including outputs, outcomes, and impact. Share as a group.
3. Put up the graph:
4. Color in red to show where the baseline level is compared to the other data points. ATP to discuss in what situation a project may have those baseline points.
	* *Perhaps an evaluation was done and problems were found*
	* *The project decided to start monitoring*
	* *Their baseline is what is the CURRENT situation on the ground at the time they are starting*
5. Put up the second graph:
6. Color in red to show where the baseline level is compared to the other data points. ATP to discuss in what situation a project may have those baseline points.
	* *If monitoring is starting at the beginning of a filter projects there are no filters, so the baseline data is zero*
7. ATP to pair share why knowing the baseline is important for each piece of information collected.
* *For comparison to the data that is collected once the project has started*
* *For celebration of progress*
* *To make sure the project isn’t causing things to get worse*
1. ATP to pair share how this baseline data could be collected.
* *Same methods as the information collection, even using the same forms*

**Collecting the Baseline Information 15 minutes**



1. Divide the participants into three groups. Assign each group one of BSF production, Post installation and WASH Follow Up.
2. Ask the groups to discuss what would be involved in collecting baseline information for all the key information in their category. Include: what information, timeline, logistics and resources.
3. Hand out copies of baseline survey example. Ask each group to review the section of the survey that pertains to their category. Discuss if it is a document that could be adapted for their purposes.
4. Share their ideas as a whole group. Record responses on flipchart.
5. Put Adapt Baseline Survey on the TO DO list.

**Review 5 minutes**



1. Complete the following statement: A baseline is essential to monitoring because……
2. Share as a group.

**Reflections on Lesson**

Lesson Plan 6: Setting SMART Targets **45 minutes total**

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**Learning Expectations**



1. Explain what a SMART target is and its function.
2. Develop project specific targets for each indicator.

**Materials**

* Flipchart paper
* Markers
* Tape
* Blank table for setting SMART targets

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Physical Fitness Measure* with the following headings spread out on the page
* Measure of Physical Fitness
* Past Amount
* Goal
* Prepare a flipchart with the heading: *Setting SMART targets*
* Print copies of table for setting SMART targets
* Read section 5 of the Participant Manual

**Introduction 5 minutes**



1. Explain that an indication of physical fitness is: *# of bags of sand sieved (without taking a break).* Write this on a flipchart next to the Measure of Physical Fitness heading.
2. ATP how many they have been able to do before – if ever. Record some of the responses next to Past Amount heading.
3. ATP to set an amount they think they could do. Record some of the responses next to Goal heading.
4. ATP to pair share which one of these is the indicator, baseline and target and why.
5. Share responses.
6. Present learning expectations.

**Baseline vs. Targets 10 minutes**



1. ATP to pair share what a baseline is and why it is important to establish.
* *Information that reflects the current situation on site or in the field*
* *Needed to be able to know what the current state of affairs is and to be able to return to make comparisons as the project progresses*
1. Put up the graphs from the Baseline lesson.
2. ATP to pair share what would be their target for % filters having acceptable operating parameters and why? Share as a whole group.
3. Record their targets on the graphs by drawing a red line at the target percentage.

.

1. ATP why having the target is important.
* *To know where the project is trying to get to or how far off the results are from the target*

**Setting SMART Targets 25 minutes**



1. ATP what **SMART** stands for.
* ***S****pecific*
* ***M****easureable*
* ***A****chievable /****A****ffordable*
* ***R****elevant/****R****eliable*
* ***T****imebound*
1. Explain that each indicator needs a **SMART** target or goal.
2. ATP to pair share why having targets are important in monitoring?
* *Need to have a goal to reach for*
* *Need to have a gauge to compare against the baseline to determine level of success*
1. Put up the flipchart: *Setting* ***SMART*** *targets*. Lead the participants through the steps of creating a **SMART** target using the example below.

% appropriate trial installation flow rate test results

**Indicator**

Flow Rate Test – 100% acceptable

**Target**

**Indicator**

**With**

**SMART**

**Target**

1. Divide up the indicators between the groups and ask them to set **SMART** targets.

They may not finish in time, but it gives them something to start with to continue later as a group. If unfinished, put *Set targets for Indicators* on the To Do List.

**Review 5 minutes**



1. ATP to discuss what ways could the baseline, actual results and targets be known by all the staff every day.
* *Post the information in the main area of the office so everyone can see where it all started, what has been accomplished to date, and what still needs to be done*
1. Why is this important? Share as a group.

**Reflections on Lesson**

**Setting SMART Targets**

| **INDICATOR** | **BASELINE** | **SMART TARGET** |
| --- | --- | --- |
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Lesson Plan 7: Collecting Information – What to Collect

 **45 minutes total**

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**Learning Expectations**



1. Explain how to determine what information is necessary to collect.
2. Create lists of necessary information to collect based on project indicators.

**Materials**

* Flipchart paper
* Markers
* Tape
* List of indicators for the intro activity
* 1 copy of each Monitoring form found in Appendix A of the participant manual
* Post installation follow up monitoring form
* WASH follow up monitoring form

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Write up the indicators for the intro activity on small pieces of paper
* Satisfaction of participants with the lunch
* % of participants that had meat
* % of participants that completely finished their meal
* % of participants that ate a second plate full
* % of participants that had smiles on their faces after they ate
* Write all the monitoring form titles on to half pieces of flipchart paper
* Print 1 set of all monitoring forms
* Tape up all the flipchart pages around the room for the Graffiti activity
* Attach one monitoring form per flipchart page
* Under each monitoring form, write headings Necessary and Unnecessary
* Print Post installation follow up and WASH follow up monitoring forms – 1 per participant
* Read section 6 in the participant manual

**Introduction 10 minutes**



1. Divide participants into pairs. Give each pair one of the small pieces of paper with an indicator on it. Based on the indicators, ATP what they will be monitoring?
* *Lunch ☺*
1. ATP to make a list of information that would be necessary to collect to measure their indicator.
2. ATP to share with another pair the list they created and to explain why it is necessary based on their indicator.
3. ATP what kind of information would be unnecessary to collect concerning the success of lunch?
4. ATP what would be the result of collecting unnecessary information?
* *Waste of resources and energy*
1. Present learning expectations.

**What to Collect 30 minutes**



1. Divide the participants into pairs. Explain the Graffiti Activity

**Graffiti**

Graffiti is a training activity that can be used to review large amount of information or to collect ideas from participants on a variety of topics. This also gives each participant a voice. To set it up, you pick the key topics that you want to review or collect information on and write those as headings on the top of the flipchart pages; one heading per flipchart.

Then, tape the flipcharts up around the room. Split the participants into pairs and ask them to spread out so there is one pair per flipchart. Give them a marker and a short amount of time at each flipchart to write their thoughts on the topic. They move around the room until they have been at each flipchart and have returned to the one they started at.

By this time, the whole group has had a chance to put input onto each of the pages. To finish, ask the participants to read what other people wrote and then discuss the results or clarify questions.

1. ATP to look at each monitoring form and record what they think is necessary and unnecessary pertaining to their project and record why. Ask them to think about each piece of information based on what will help find problems and help improve project processes and capacity.
2. Ask each pair to go to each flipchart and star anything that needs to be discussed as a group.
3. Discuss the necessity of information for a number of forms to be sure they understand what is necessary and unnecessary and why. Be prepared to critique their ideas and push them to keep it simple and to only keep the really necessary information. What can they specifically resolve and improve upon to make the project better? Refer to the Monitoring for Improvement flipchart as a reminder.
4. Keep the flipchart pages for the session on Adapting Monitoring Forms where they will review and adapt the monitoring forms to meet the needs of their project.
5. Explain that overall the information collected is connected to the things that determine the projects’ success called *indicators*. Indicators are used to determine the specific type of information necessary to collect is very important. Draw up example below on a flipchart to illustrate this.

For example:

 **Indicator** **Necessary** **Information to Collect**

% properly operating filters 1 month post installation

# filters whose operating parameters meet criteria

# of filters installed

1. Explain that indicators will be discussed at a later on in the training.

**Review 5 minutes**

1. ATP to stand in two rows facing each other so they are in pairs. Designate one row to be A and the other B.
2. A tell B – Explain the difference between necessary and unnecessary information.
3. B to tell A – Explain why we should only collect necessary information.
* *Waste of resources – money, time, materials*

**Reflections on Lesson**

Lesson Plan 8: Collecting Information – Techniques

** 45 minutes total**

**Learning Expectations**



1. Explain the components of an effective monitoring question.
2. Describe and demonstrate proper questioning techniques to maintain reliability of information collected.
3. Describe and demonstrate proper responses of interviewers when they find unacceptable results.

**Materials**



* Flipchart paper
* Markers
* Tape
* Scissors
* Filter
* Dirty storage containers

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Print and cut up the question boxes
* Prepare a flipchart with the heading: *Effective Question Design*
* Prepare a flipchart with the heading: *Questioning Technique Tips*
* Filter and storage container in the room to use as a prop
* Read section 6 in the Participant Manual

**Introduction 8 minutes**



1. Ask for a volunteer to join you at the front of the room. Ask the volunteer to pick anything they can think of. Explain that you have to figure out what it is by asking closed questions where the volunteer responds with only yes or no. The job of the audience is to keep track of how many questions it takes to do so. Record the number of questions.
2. Ask for a new volunteer and ask them to pick something else and you are going to do the same thing. The audience is to count how many questions again. But this time you get to use any kind of question.
3. This time simply ask: What is it?
4. ATP to discuss in pairs the difference – how did the first way take so many more questions than the second?
* *Closed vs. Open questions*
1. Present the learning expectations.

**Question Design 15 minutes**

1. Divide the participants into pairs. Ask the pairs to interview each other with a set of questions and record the answers. Hand out the questions.
2. Afterwards, discuss as a whole group what they thought of the two sets of questions.
3. ATP which set of responses produces more reliable information and why?
* *Partner 1 Questions - Open questions for the respondent to fill in the gaps*
* *Partner 2 Questions - Lead the respondent to an answer that they are supposed to be doing or supposed to say*
1. ATP to identify the effective monitoring questions or methods to collect reliable information.
* *Open questions – what, where, how, when…*
* *Possible to get respondent to demonstrate*
* *No leading statements in the question*

**Asking Techniques 10 minutes**



1. Explain that even with the most effective question, how it is asked can alter the reliability of the response. ATP to pair share how to ask a question properly to maintain reliability of the responses. (Demonstrate any tip that needs clarification.)
* *Open questions without leading*
* *Pause or wait time after you ask the question – give the respondent at least 5 seconds to think*
* *Repeat the question if necessary – either the same one or with different words to give another option for understanding (i.e. What do you use to transport your water to your house? OR What do you carry your water in from the pump to the house?)*
* *Ask the question in the same way between each household or each visit*
* *Ask the respondent to demonstrate as much as possible for you – actions speak louder than words if they actually practice or understand the topic*
1. Divide the participants into different pairs. ATP to practice these tips with *Partner 2 Questions*.

**Interviewer Response 10 minutes**



1. Ask for a volunteer to join you in the front of the room. Explain that they represent the household and you are a filter technician collecting information about their filter.
2. Pretend to take the flow rate of a filter. The flow rate is too fast so you start shaking your head, tsk tsk, purse your lips and say ‘This is bad.’
3. ATP to pair share what the effect of such a response would be on the filter owner. Share as a group.
4. ATP to pair share what an interviewer should have done in this situation. Share as a group.
* *Record the information with no judgement*
* *Recommend/reemphasize the need for disinfection of the filtered water before drinking*
* *Order a technician visit as soon as possible*
1. Divide the participants into pairs. ATP to practice what they would say if they found a dirty/contaminated storage container during a household visit.

**Review 2 minutes**

1. ATP to pair share one technique they will focus on using in the afternoon interviews.
2. Share a few as a group

**Reflections on Lesson**

|  |  |
| --- | --- |
|  **Partner 1 Questions** | **Responses** |
| Do you use your filter? |  |
| Do you settle your water before pouring it into the filter? |  |
| Do you use a different bucket to get your water than you use to store your filtered water? |  |
| Is your sources water clear? |  |
| **Partner 2 Questions** | **Responses** |
| How many times a day do you use your filter? |  |
| Show me your water source. (Ask them to describe it for you.) |  |
| What do you use to get your water? Show me |  |
| What do you use to store your water? Show me |  |
| How often do you clean the storage container? Show me.  |  |
| **Partner 1 Questions** | **Responses** |
| Do you use your filter? |  |
| Do you settle your water before pouring it into the filter? |  |
| Do you use a different bucket to get your water than you use to store your filtered water? |  |
| Is your sources water clear? |  |
| **Partner 2 Questions** | **Responses** |
| How many times a day do you use your filter? |  |
| Show me your water source. (Ask them to describe it for you.) |  |
|  What do you use to get your water? Show me |  |
| What do you use to store your water? Show me |  |
| How often do you clean the storage container? Show me.  |  |

Lesson Plan 9: Collection Methods and Maintaining Reliability

 **90 minutes total**

****

**Learning Expectations**



1. Compare the advantages and disadvantages of different collection methods.
2. Describe how to avoid errors that compromise the reliability of information: bias, non-response, culture, status, trust, technique.
3. Explain how to create an environment of trust and learning to prevent biases or altered results.

**Materials**

* Flipchart paper
* Markers
* Tape
* Bananas – 1 per participant
* Filter and storage container

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Methods of Collecting Information.* Write the following list on the flipchart:
	1. Interview with questionnaire
	2. Physical measurements
	3. User demonstration
	4. Group discussion
	5. Direct observation
* Prepare a flipchart with the heading: *Common Errors and Preventing Them*
* Prepare a flipchart with the heading: *Staff Trust*
* Prepare a flipchart with the heading: *End User Trust*
* Bring 1 banana (or other fruit) for each participant
* Biosand filter and dirty storage container for a demonstration
* Read section 6 in the Participant Manual

**Introduction 10 minutes**



1. Give a banana (or other fruit) to each participant. ATP to collect as much information on the banana as possible. Don’t mention that they can eat it, but if they do that is good.
2. ATP what they used to collect the information.
* Taste, touch, eyes, nose
1. ATP to share their list and put the information into the four categories of how they would know that. For example: Sweet = taste, Yellow = eyes, Smooth = touch, Smell = nose
2. ATP what would happen if they only used one method of collecting this information.
* *They would only have one part of the picture*
1. Present the learning expectations.

**Methods 20 minutes**



1. Divide the participants into pairs. ATP to make a list of the methods they used the day before in the household visits to collect information.
2. Put up the flipchart: *Methods of Collecting Information*. ATP to compare their list with the flipchart.
3. Put two pairs together to make groups of 4. ATP to discuss one advantage and one disadvantage of each method. Share as a group and record responses on flipchart paper.
4. ATP why it is important to have a mixture of methods when collecting information? For example, when monitoring filter production or sand preparation or post installation follow up? Share as a group.
* *Using all the senses helps to get a more rounded picture of what is going on*
* *Collecting different kinds of information means different methods are necessary*
* *For example if a household says they wash their hands after using the toilet, but you observe that they don’t have a washing station tells you something different. Or they tell you they do and you see the wash stand you can write their response with more confidence.*
1. ATP to consider this when they are using the forms during the field sessions.

**Reliable Information 30 minutes**



1. If possible, set up the filter with a dirty storage container, no lid on the filter, and the diffuser placed incorrectly.
2. Ask for a volunteer to stand with you at the front of the room as if you are in an interview. If possible, do the activity with a filter or else role play the scene without the filter. Let them know that they are part of the monitoring team and coming to your house for a follow up visit on their filter. Give them a Post Installation form to use.
3. As you play the role of a householder, answer the questions in a way that makes everything positive even if it might not be. Be subtle. Demonstrate how you can give false information in order to appease them or give them the answers that you think they would want to hear.
4. When finished, ATP to comment on the responses that you were giving.
5. ATP what are common errors that can make the information collected unreliable or false? Fit the responses in to the main categories of common errors on the flipchart: *Common Errors and Preventing Them.*
* *Biased questioning or responses*
* *Non-response*
* *Culture*
* *Status*
* *Lack of trust*
* *Improper questioning technique*
1. Divide the participants into groups of 3 - 4. ATP to discuss and write down ways to avoid these common errors.
2. Share as a large group. Each group shares 1 idea at a time. Record responses on the flipchart.
3. Refer participants to Table 6.2.4: *Common Errors in Collecting False Information and How to Prevent It***.** ATP to compare this list with their own. ATP if they would like to add any to their own list.
4. Post the flipchart to ensure that the ideas are incorporated into the upcoming monitoring activities.

**Building an Environment of Trust and Learning 25 minutes**



1. Divide the participants into 2 groups: Staff Trust and End User Trust. ATP to discuss what could affect the trust of staff to report honestly? Record their ideas on flipchart under heading Breaking Trust.
2. ATP to discuss what could happen to results if the staff or end user doesn’t trust or feel comfortable enough to be honest. Record responses under heading Result of Broken Trust.
* *For example – staff not recording problems or issues they find or an end user that reports something they should be doing but they actually don’t do it.*
1. ATP to discuss what can be done to build that trust. Record responses under heading Building Trust.
2. Ask the groups to share with each other. Discuss any unaddressed issues or solutions.

**Review 5 minutes**

1. Ask Group 1 to stand facing Group 2.
2. 2 tell 1 – What are 5 common errors that affect reliability?
3. 1 tell 2 – What is # 1 in building trust and why?
4. Ask each participant to think about how they would do yesterday’s visit differently being more conscious of building trust. Share as a group.

**Reflections on Lesson**

Lesson Plan 10: Field Debrief – Household Visits

** 90 minutes total**

**Learning Expectations**



1. Discuss household visit experience.
2. Analyze monitoring forms to anticipate causes of potential issues at collection.

**Materials**

* Flipchart paper
* Markers
* Tape
* Full set of blank monitoring forms
* Completed monitoring forms
* Music with speakers

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Print 2 blank copies of Post Installation and WASH follow up monitoring forms
* Prepare a flipchart with the heading *Sharing of Experience* with the following discussion questions:
* What went well?
* What were the challenges?
* What questions were more challenging to get answered?
* What issues were found?
* What could have been done to address those issues at the time?
* Prepare a flipchart with the heading: *Causes of Household Issues*

**Introduction 10 minutes**



1. ATP to mingle around the room while playing music. When the music stops, ATP to share 1 thing that was really exciting about the household visits the day before.
2. Do 3 or 4 rounds.
3. Present learning expectations.

**Sharing of Experience 45 minutes**

1. Divide the participants into groups of 3-4 so that they are mixed based on if they were in the Post Installation or WASH Follow Up visit.
2. Put up the flipchart *Sharing of Experience* and ATP to share and discuss the following points in their groups:
3. What went well?
4. What were the challenges?
5. What questions were more challenging to get answered?
6. What issues were found?
7. What could have been done to address those issues at the time?
8. ATP to share as a whole what were the main challenges that they faced in using the forms. Record them on flipchart.
9. For each issue, discuss as a group how that challenge can be reduced, overcome or fixed. Record the main ideas.

**Analysis of Monitoring Forms 30 minutes**



1. Put up the flipchart: *Causes of Household Issues*. ATP to discuss what could be the root cause of the noted issues. Record on the flipchart.
* *Filter use*
* *Education*
* *Construction*
* *Installation*
* *Processes*
* *Management issues*
* *Logistics*
1. Hand out a blank copy of the Post Installation and WASH follow up monitoring forms to each group. ATP to review each piece of information on the forms and record:
	* 1. Possible problems
		2. Possible causes of the problems

For example: For the following piece of information, the possible issues and causes are identified.

|  |  |
| --- | --- |
| 5 cmsStanding water level 5 cm | Water level is **Low** – Filter Use, Education, Installation**High** – Installation |

1. ATP how identifying possible issues and causes can help their project.
* *Anticipating issues and where they might originate*
* *Thinking ahead to prevent the issues from coming up*
* *Anticipating training and mentoring needs of CHPs and BSF technicians*

**Review 5 minutes**



1. Ask each person to share one unexpected thing they learned or experienced during the household visit.

**Reflections on Lesson**

Lesson Plan 11: Field Debrief – Production Sites

**90 minutes total**

**Learning Expectations**



1. Discuss experience of production site visits.
2. Map out logistical and resource needs for collecting information.

**Materials**



* Flipchart paper
* Markers
* Tape

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare flipchart with the heading *Sharing of Experience #2* and the following discussion questions
* What went well?
* What were the challenges?
* What questions were more challenging to get answered?
* What issues were found?
* What could have been done to address those issues at the time?
* Prepare a flipchart with the heading: *Causes of Production Issues*

**Introduction 10 minutes**



1. Ask half the group to stand in a circle facing out. Ask the rest of the participants to create a circle around them facing in so that they have a partner they are looking at.
2. ATP to share something they were excited to find out during the production site visits.
3. Ask the inside circle to turn clockwise two people. The outside circle doesn’t move.
4. With their new partner, ATP to share something that challenged them during the visits.
5. Ask the outside circle to turn clockwise two people. The inside circle doesn’t move.
6. With their new partner, ATP to share one thing that can be improved for the staff that will be doing the site visits in the future.
7. Present learning expectations.

**Sharing of Experience #2 45 minutes**



1. Divide the participants into groups of 3-4, mixing up the teams based on the forms they used.
2. Put up the flipchart *Sharing of Experience #2.* ATP to share and discuss the following points in their groups:
3. What went well?
4. What were the challenges?
5. What questions were more challenging to get answered?
6. What issues were found?
7. What could have been done to address those issues at the time?
8. ATP to share with the entire group what were the main challenges that they faced in using the forms. Record them on flipchart.
9. For each issue, discuss as a group how that challenge can be reduced, overcome or resolved. Record the main ideas.

**Logistics and Resource Needs 30 minutes**



1. Hand out a piece of flipchart paper to each group. ATP to draw a map of the project site including: production sites (including filter box construction, diffuser and lid construction, sand preparation) and implementation area (including location of communities where the filters are being installed and where the education sessions are happening).
2. Designate one group as Production Monitoring, one as Post Installation Monitoring or and the last as WASH Follow Up.
3. Ask each group to first list the resources that would be needed to be able to do the monitoring: human, material and financial if possible.
4. Ask each group to write on the map the movement of people and materials involved for the corresponding monitoring activities.
5. For the last few minutes, ask the groups to have a look at the others’ work with the option to add to the pages.
6. Keep all the information to use in the upcoming Information Management and Budgeting sessions.

**Review 5 minutes**



1. Finger Check – Ask the participants to indicate with their finger what their level of confidence is between 1 and 5 (1 being the lowest and 5 being the highest) for the following:
	1. Ability of the organization to organize the monitoring of production activities
	2. Ability to collect reliable information from the end users
	3. Ability to visit households for WASH follow up

**Reflections on Lesson**

L**esson Plan 12: Analysis and Improvements - Situational**

 **90 minutes total**

****

**Learning Expectations**



1. Explain the process of analysis and making improvements in monitoring.
2. Demonstrate analysis of situational pieces of collected information.
3. Recommend how to make improvements by fixing an identified problem and improving process and capacity to prevent the problem from continuing.

**Materials**

* Flipchart paper
* Markers
* Tape
* Clean Water for Haiti Powerpoint
* Completed monitoring forms that were used on the field visits
* Introductory activity – 1 per participant
* Computer
* Projector

**Preparation**

****

* Write the session Learning Expectations on flipchart paper
* Prepare a flipchart with the heading: *Capacities Necessary*
* Make copies of the Introduction activity for each participant (If you are going to use the introduction activity for the following lesson, then put Lesson 13 activity on the other side of this page to save paper.)
* Prepare a flipchart with the two pieces of information in the introduction
* Of the Post Installation and WASH follow up forms used during household visits, choose 6 of each that have identified problems. On each of the forms, highlight 2 issues you would like them to discuss in the activity in the Situation Analysis section
* Cue Aqua Clara International PowerPoint if it can be projected. If not, print copies to review in small groups.
* Read section 7 in the Participant Manual

**Introduction 10 minutes**



1. Hand out the Introduction Exercise Handout to each participant. ATP to pair share what the information indicates.

**Information A Information B**

|  |  |
| --- | --- |
| Storage container is **acceptable**  and **clean** |  |
|  |

|  |  |
| --- | --- |
| 5 cmsStanding water level 5 cm | - 2 cm |

1. Share as a group.
* *Storage container is the right kind, but it isn’t clean*
* *Standing water level is not acceptable because it is at 2 cm not 5 cm*
1. Present learning expectations.

**Introduction to Analysis and Making Improvements 10 minutes**

1. ATP to share what could be the cause of the problems they identified in the introduction activity.
* *Lack of education or commitment to clean the storage container*
* *Lack of use of filter (evaporation of water) or too much sand installed to make the standing water level too low*
1. ATP to pair share and record on their page how they would plan to fix these problems. Share as a group.

*These are possible ways to fix the problem, but not the only ones -*

* *Information A: At the moment that the Community Health Promoter (CHP) notes the dirty container they can begin coaching and observing the household wash the storage container with soap and safe water so it is resolved right there.*
* *Information B: The CHP determines that it is not lack of use as the reason the standing water level is low. They record the information and make a request for a technician to follow up. The technician then visits the house to determine what the problem is and fixes it.*
1. ATP to pair share and record on their page what needs to be done to prevent the problem from happening again. Share as a group.

*These are possible ways to make improvements, but not the only ones -*

* *Information A:*
* *Ask the household for a commitment on how often they will clean the container and follow up with them*
* *Information B:*
* *As a group of technicians, look into other filters to see if this was an isolated problem or if many of the filters installed have a similar problem*
* *If the latter, look at installation procedures to determine why too much sand is being installed – is it the procedure or the capacity of those installing?*
* *Make a group decision for making improvements to either the procedure and/or do an installation review with technicians*
1. Explain that this is the process of analysis and making improvements that they will be practicing extensively.

**Situational Analysis 60 minutes**

1. Present Aqua Clara International PowerPoint.
2. ATP to discuss Aqua Clara International’s monitoring process of analysis and making improvements.
3. Divide the participants into groups of 3-4. Hand out flipchart paper that has lines drawn on it to divide into two spaces: Analysis and Improvement.
4. Hand out one of each of the completed forms that were filled in during the household visits. Explain that there are two problems highlighted on each of their forms. For each of these problems, ATP to discuss the following questions and to record their discussion points on flipchart:
* **What?** - What is the issue?
* **Fixing the Problem** - What are possible ways it can be fixed?
* **Who?** – Who will need to fix it?
* **Logistics and Resources** - What logistics and resources will be necessary to fix it?
* **Process and Capacity**– What possible ways can the process and/or capacity be improved to prevent it from happening again?
* **Logistics and Resources** - What logistics and resources will be necessary to do this?
1. ATP to walk around the room to each of the flipcharts and review what the other groups wrote. ATP to add anything (in a different color) that was missed or a different suggestion.
2. ATP to discuss any issue that there is a division of opinion.

**Review 10 minutes**



1. Divide the participants into 3 groups. ATP to choose a problem that could be identified during a visit.
2. Prepare a skit or small play, 1 minute in length, to act out the process of analysis and improving.
3. Present the skits.

**Reflections on Lesson**

**Lesson 12 Introduction Exercise**

1. Here are two pieces of information a Community Health Promoter recorded at a house visit.
2. Record below what the information indicates.

**Information A Information B**

|  |  |
| --- | --- |
| Storage container is **acceptable**  and **clean** |  |
|  |

|  |  |
| --- | --- |
| 5 cmsStanding water level 5 cm |  2 cm |

Lesson Plan 13: Analysis and Improvements – Group Trend

 **90 minutes total**

****

**Learning Expectations**



1. Demonstrate how to transfer information from a monitoring form to a tally sheet.
2. Demonstrate how to create a graph (on paper or computer) from the tally sheet.
3. Demonstrate how to analyze a graph to identify problems.
4. Demonstrate the process of making improvements based on the problems identified to the project.

**Materials**

* Flipchart paper
* Markers
* Tape
* Flipchart paper in halves
* Coloured pens or pencils
* Example graphs with mock data
* Computers if possible
* Graph paper if necessary

**Preparation**

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* Write the session Learning Expectations on flipchart paper.
* Photocopy the Introduction handout for each participant (If you can double side this one with the hand out from Lesson Plan 12)
* Print one copy of each of the tally sheets found in Appendix B of the Participant Manual
* Photocopy the Graphing template for each participant – double sided if possible
* Print a selection of Mock Tally sheets
* Prepare the flipchart with the heading: *Steps to* *Analysis and Making Improvements* with the following information written on it:
* **What?** - What is the problem?
* **What are the possible issues with process and/or capacity that could cause the problem?**
* **Fixing the Problem** - What are possible ways it can be fixed?
* **Who?** – Who will need to fix it?
* **Logistics and Resources** - What logistics and resources will be necessary to fix it?
* **Improving Process and Capacity**– What possible ways can the process and/or capacity be improved to prevent it from happening again?
* **Who**? – Who would be responsible to put the improvements into action?
* **Logistics and Resources** - What logistics and resources will be necessary to improve it?
* Read section 7 in the Participant Manual

**Introduction 10 minutes**



1. Hand out the introduction activity. Write the following two pieces of information on flipchart.

|  |  |  |  |
| --- | --- | --- | --- |
| Flow rate (400 mL/min) | A - 150 mL/min | Flow rate (400 mL/min) | B40% or 80 out of 200 filters were too fast30% or 60 out of 200 filters were too slow30% or 60 out of 200 filters were acceptable |

1. ATP to pair share in general what the difference is and what each of them tells us. Share as a group.
* *A is information from a single filter*
* *B is information from 200 filters*
* *A tells us that this particular filter is flowing too slow*
* *B tells us that*
* *30% of them are flowing properly*
* *40% need to be looked at to determine why they are fast*
* *30% need to be looked at to determine why they are slow*
1. ATP to discuss how we might get the information for B. Share as a group.
* *Need to gather the information using tally sheets or a spreadsheet to get all the information in one place to be able to work with it*
1. Present the learning expectations.

**Monitoring Form to Tally Sheet 15 minutes**



1. Divide the participants into three groups. Name them the BSF Production, Post Installation and WASH Follow Up. Give each group the corresponding monitoring forms that were completed in the field and tally sheet templates.
2. Ask each group to tally the information from the forms to the tally sheet. Ask that each person in the group practices with the tally process.
3. ATP to calculate the totals and percentages. If you feel that the whole group needs a lesson on how to calculate percentages, stop and do that now.

**Tally Sheet to Graph 20 minutes**

Participant’s graphing experience will vary. Use the experience in the room to help you teach how to graph.

Some may be able to use computers so use the graph templates to input their data. Otherwise ask them to draw the graphs by hand. If they do use computer generated graphs, they will need to quickly draw a sketch of their graph on paper to use in the following activity.

1. Draw an x and y axis on a flipchart. ATP to identify the axes and in general what kind of information will be presented on each axis.
* *x axis – horizontal – What you are measuring against either a category or a value*
* *y axis – vertical – Value that is variable (something that can change)*
1. ATP what kinds of graphs they have seen before: line, point, pie chart, bar graphs?
2. Explain that line or bar graphs are recommended for monitoring depending on the comfort level of the audience with either format.
3. If possible, project one of the example graphs on a screen and go through an example with them. Identify the axes. Show how to input the data and what the resulting graph looks like.
4. ATP to identify what information from their tally sheets would be on the x and y axes and the type of graph they would use to present the information.
* *All x axes is the list of what was tallied; what is listed at the top of the tally sheet*
* *All y axes are either* % *and /or*%  *or # and/or #***
1. From the tally sheets, ATP to graph the information either on a computer or by hand. Every participant should do at least one graph for practice.
2. Color code the graphs to visually separate the variables.
3. Go to each group to check the graphs regularly to ensure a quality product for easy analysis in the next activity.

**Analysis of Trends 20 minutes**



1. ATP to tape each graph to the top of half a flipchart. Write *Analysis and Making Improvements* as headings down the side of the flipchart. Tape them around the room on the walls and desks.
2. Take the entire group to one graph that has an identified problem. ATP to pair share what appears to be working based on the graph. Share as a group and record the correct responses on the flipchart beside the heading *Analysis*.
3. ATP to pair share what appears to be a problem based on the graph. ATP to pair share what the possible causes of the problem could be considering process (steps to carry out the activity) and capacity (the ability of those doing the work). Share as a group and record responses on the flipchart.
4. Choose another example graph that requires more complicated analysis and do the same thing with the entire group.

**Making Improvements 20 minutes**



1. Return to the first graph where the analysis was done. ATP to choose one key issue that was identified.
2. ATP to discuss as a group what could be done to make improvements by fixing the problem. Record their responses on the flipchart beside the heading *Making Improvements A.*
3. ATP who would be responsible to fix it? Record responses on the flipchart.
4. ATP what logistics and resources would be needed to resolve this issue? Record responses on the flipchart.
5. ATP how process and capacity might be improved to prevent this issue from happening again? Record responses on the flipchart beside the heading *Making Improvements B*.
6. ATP who would be responsible to put the improvements into action? Record responses on the flipchart.
7. ATP what logistics and resources would be needed to make the improvements? Record responses on the flipchart.
8. Divide the participants into groups of three. ATP to review another graph and use the same process to fix and improve any issues. They should record their answers on the flipchart. Repeat this until all the graphs have at least one issue that has been through this process.
9. ATP to visit each of the graphs that they did not discuss and quickly review what the other groups discussed. They can to add to what is written on the flipchart.
10. Put up the flipchart *Steps to Analysis and Making Improvements*.
* **What?** - What is the problem?
* **What are the possible issues with process and/or capacity that could cause the problem?**
* **Fixing the Problem** - What are possible ways the problem can be fixed?
* **Who?** – Who will need to fix it?
* **Logistics and Resources** - What logistics and resources will be necessary to fix it?
* **Improvement** – What possible ways can the process and/or capacity be improved to prevent it from happening again?
* **Who**? – Who would be responsible to put the improvements into action?
* **Logistics and Resources** - What logistics and resources will be necessary to improve it?
1. ATP for feedback on the analysis and making improvements process.

**Review 5 minutes**



1. In pairs, ATP to describe the analysis and making improvements process after information has been collected.
2. ATP to share the part of the process they find the most interesting and the most challenging.
3. Share a few as a whole group.

**Reflections on Lesson**

**Lesson 13 Introduction Exercise**

Here are two pieces of information: A was collected during a household visit and B was summarized from 200 monitoring forms.

Pair share in general what the difference is and what each of them tells us.

|  |  |  |  |
| --- | --- | --- | --- |
| Flow rate (400 mL/min) | A - 150 mL/min | Flow rate (400 mL/min) | B40% or 80 out of 200 filters were too fast30% or 60 out of 200 filters were too slow30% or 60 out of 200 filters were acceptable |

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Lesson Plan 14: Analysis and Improvements – Long Term Trend

 **90 minutes total**

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**Learning Expectations**



1. Demonstrate how to graph long term trends.
2. Compare group trend and long term trend information.
3. Demonstrate analysis and making improvements based on long term trends.

**Materials**

* Flipchart paper
* Markers
* Tape
* Flipchart paper in halves
* Markers
* Graph paper for each participant, if necessary
* Introduction Activity
* Group Trend flipcharts from Lesson Plan 11

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Long Term Trend Analysis and Making Improvements* and the following instructions:
* Compare the group trend improvements to the long term trend graph.
* Were the group trend improvements successful?
* If not, why?
* If yes, what else could be improved to reach the target numbers?
* Print the introduction activity – 1 per participant
* Print the mock data page – 1 per group
* Read section 7 in the Participant Manual

**Introduction – Option 1 5 minutes**



1. Divide the participants into groups of 3-4. ATP to go to one of the graphs from Lesson 12.
2. ATP to discuss in their small group how would they know if the problems were in fact resolved. Share as a group.
3. Present learning expectations.

**Introduction – Option 2 5 minutes**



1. Hand out the Introduction Activity graph to each participant.
2. ATP to pair share what the graph is telling them.
3. Choose one of the issues and ATP to pair share how it could be resolved. Share as a group.
4. ATP to pair share how would they know that the problems were resolved 3 months later. Share as a group.
5. Present learning expectations.

**Group Trend to Long Term Trend Graphing 20 minutes**



1. Divide the participants into pairs. Hand out the mock data handout.
2. ATP to graph their data on the corresponding group trend graphs that were created in Lesson 13.

**Long Term Trend Analysis 60 minutes**



1. Hand out half flipchart paper, a marker and tape to each pair. ATP to attach the graph (that they made in the graphing activity above) to the flipchart.
2. Ask each pair to analyze the graph and write their conclusions beside the graph.
3. Take one of the graphs and match it to the group trend graph that was plotted in the previous lesson.
4. Post the flipchart with the heading: *Long Term Trend Analysis and Making Improvements* and the instructions.
* Compare the group trend improvements to the long term trend graph.
* Were the group trend improvements successful?
* If not, why?
* If yes, what else could be improved to reach the target numbers?
1. Ask the group to read through the conclusions and improvements that were suggested for the group trend graph.
2. Compare the proposed conclusions and improvements to the resulting data on the long term trend graph. Discuss whether the improvements were successful or not based on the long term data.
3. ATP what they would they do to make improvements now based on the long term data.
4. Ask 2-3 groups to present interesting data and their proposed improvements.
5. Discuss any questions or if participants have thought about ‘what if’ situations.
6. ATP to post their group and long term trend graphs so they can be reviewed by the other groups on breaks.

**Review 5 minutes**



1. A tell B – What is the difference between a group trend and long term trend graph.
2. B tell A – What is the difference between analysis of a group trend and a long term trend.

**Reflections on Lesson**

**Lesson 14 Introduction Analysis**

* 1. Discuss what the graph is communicating.
	2. Discuss how would you know if in 3 months the improvements have been done.
	3. Record your ideas in the space below.

**Mock Data to Create Long Term Trend - BSF Production**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **Lids Built Properly** | **Lids Fit Properly** | **Diffuser Fits Properly** | **Diffuser Holes 3mm or less** | **Diffuser Holes 1” Spacing** |
| **%**  | 85 | 95 | 81 | 76 | 67 |

Diffusers and Lids

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Form #** | **Total # on Form** | **Sieve Set Condition** | **Sieved Sand Quality** | **Sieved Sand Organic Free**  | **Gravel Washed Clean** | **Sieved Sand is Useable** | **Gravel is Useable** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **%** |  | 76 | 24 | 76 | 24 | 64 | 36 | 87 | 13 | 74 | 26 | 65 | 35 |

Sand Prep

aration

|  |  |  |  |
| --- | --- | --- | --- |
| **Form #** | **Total # on Form** | **Jar Test** | **Acceptable Flow Rate**  |
|  |  |  |  |
| **%** |  | 76 | 24 | 75 | 25 |

Trial

Installation

|  |  |  |
| --- | --- | --- |
| **Form #** | **Total # on Form** | **Acceptable Sand Sieve Analysis**  |
|  |  |
| **%** |  | 79 | 21 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Form #** | **Total # on Form** | **Acceptable Flow Rate** | **Standing Water Level = 5 cms** | **Unresolvable Problems** | **End User Swirl and Dump Demo** | **Sand Sets Rejected** |
|  |  |  |  |  |  |  |  |  |
| **%** |  | 65 |  | 95 |  | 12 |  | 35 |  | 17 |

Sand Sieve

Analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Form #** | **Total # on Form** | **No Leaks** | **Curing Time** | **Washed Box** | **Flow Rate** | **Water Level** | **Installable** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **%** |  | 90 |  | 76 |  | 87 |  | 78 |  | 76 |  | 82 |  |

BSF Installation

BSF Production

**Post Installation Follow Up Visit 2 – Mock Data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **River** | **Uncovered Well** | **Covered Well** | **Tap Stand** | **Pump** |
| **%**  | 70 | 15 | 13 | 2 | 0 |

Water Sources

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **No Treatment** | **Settling** | **Boiling** | **Chlorination** | **Other** |
| **%**  | 43 | 30 | 34 | 65 | 0 |

Household

Water Treatment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **Diarrhea** | **Stomach Ache** | **Skin Infection** | **Eye Infection** | **Other** |
| **%**  | 45 | 50 | 23 | 21 | 15 |

Health

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Form #** | **Standing Water Level** | **Flow Rate** | **Daily Use** | **Diffuser** | **Sand Level** | **Turbidity** | **Storage Type** | **Storage Clean** | **Leaks** |
| **%**  | 56 | 65 | 45 | 66 | 81 | 67 | 71 | 56 | 95 |

Operating

Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Survey #** | **Filter Box Cleaning** | **Swirl and Dump** | **Diffuser Cleaning** | **Storage Cleaning** | **BSF Operations** |
| **%**  | 85 | 35 | 54 | 45 | 65 |

End User

Competence

**WASH Follow Up – Mock Data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **River** | **Uncovered Well** | **Covered Well** | **Tap Stand** | **Pump** |
| **%**  | 45 | 32 | 12 | 6 | 5 |

Source Water

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **No Treatment** | **Settling** | **Boiling** | **Chlorination** | **Biosand Filter** |
| **%**  | 53 | 33 | 27 | 32 | 65 |

Household Water

Treatment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Form #** | **Protected** | **Unprotected** | **No Tap** | **Tap** |
| **%**  | 34 | 66 | 65 | 35 |

Storage

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Form #** | **After the Toilet** | **Before Eating** | **Before Preparing Food** | **After Changing a Baby** |
| **%**  | 45 | 34 | 25 | 13 |

Hand Washing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **Open Defecation** | **Buried** | **Dirty Latrine** | **Clean Latrine** | **Latrine with Hand Washing** |
| **%**  | 76 | 13 | 6 | 3 | 2 |

Sanitation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form #** | **Covered Food** | **Washing Food** | **Water Treatment** | **Use Latrine** | **Hand Washing** |
| **%**  | 76 | 54 | 67 | 26 | 43 |

Preventing

Disease

Lesson Plan 15: Revising Monitoring Forms **90 minutes total**

****

**Learning Expectations**



1. Analyze how monitoring forms connect to project output indicators.
2. Modify monitoring forms to meet project needs.

**Materials**



* Flipchart paper
* Markers
* Tape
* Calculator
* Master list of performance indicators
* Set of blank monitoring forms

**Preparation**

****

* Write the session Learning Expectations on flipchart paper
* Print performance indicators master list (1 for each group)
* Print 1 set of blank monitoring forms
* Print the Introduction Activity Tally Sheet
* Read section 4 and 6 in the Participant Manual

**Introduction 15 minutes**



1. Ask for a volunteer to work with you – make sure that this person is comfortable doing basic math on the spot. Divide the rest of the participants into two groups. Explain the Lady, Lion, Hunter game.
2. Explain each role and practice an action to represent each role with them.
3. As a team the group will decide if they will all be the lady, lion or the hunter.
4. It is important that the other group doesn’t hear their plan.
5. Both groups will stand in a row facing away from the other group, with their backs turned.
6. When the trainer says ‘Go’, the group will jump around to face the other group and gesture the role of whatever they had decided on.
7. To win: the Hunter beats the Lion; the Lady beats the Hunter; the Lion beats the Lady.
8. Practice once or twice until they get the idea.
9. Before starting, explain that the indicator is the % that Team A wins the game. The volunteer is going to collect information for each game and then report on the indicator.
10. At the end, ask for the tally and percentage of Team A wins.
11. Ask the volunteer to show the tally sheet and describe what information was collected.
12. ATP to discuss what information was necessary and unnecessary to collect on the form for the given indicator.
13. ATP what would be another appropriate indicator of this activity? Does the information collected meet the needs to determine that indicator?
14. Present learning expectations.

**Indicators and Monitoring Forms 70 minutes**



1. Review the master list of indicators that was created in Lesson 4 with the entire group.
2. Divide the participants into three groups: BSF Production, Post Installation and WASH Follow Up. Assign the groups the individual indicators that fall into those categories.
3. Using the monitoring forms, ask the groups to link every piece of information that is to be collected with an indicator. If there is no apparent link, mark the piece of information for discussion.
4. ATP to also review the indicator list to ensure that each indicator has information feeding in to it.
5. As a reference, put up the necessary information lists they created in Lesson Plan 7.
6. Discuss with the entire group how they would adapt the monitoring forms to match the indicators and their project’s needs.
7. Ask each group to present their recommendations. Discuss and finalize as many decisions as time allows. If any decisions remain to be made, then add *Review indicators and information on monitoring forms* to the TO DO list.
8. Mark changes discussed on the blank monitoring forms to be adapted by the organization. Put *Adapt monitoring forms* on the TO DO list.

**Review 5 minutes**



1. ATP to write the first three words that come to mind when they think of monitoring.
2. ATP to share with the person beside them.

**Reflections on Lesson**

**Introduction Activity Tally Sheet**

if YES

 if NO

Indicator: % Team A wins game.

Dates: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name of Recorder:­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Game #** | **# A wins** | **# B wins** | **# Lady** | **# Lion** | **# Hunter** |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| **Total**  |  |  |  |  |  |
| **Total**  |  |  |  |  |  |
| **%**  |  |  |  |  |  |
| **%**  |  |  |  |  |  |

Lesson Plan 16: Information Management **60 minutes total**

****

**Learning Expectations**



1. Identify possible roles involved in monitoring activities.
2. Create a map of the processes for information to flow from collection to analysis to making improvement (fixing problems and building processes and capacity).

**Materials**

* Flipchart paper
* Markers
* Tape

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Monitoring Activities and Roles*
* Prepare a flipchart with the heading: *Information Flow Discussion Questions* with the following questions
* How is the information collected?
* How do the forms get back to the organization?
* What happens with the information that indicates problems in the field?
* How are the problems fixed?
* How are improvements made?
* How are the end users informed?
* How is management informed?
* Prepare a flipchart of Aqua Clara Information Flow (See Figure 6.6.2 in the Mapping Information Flow section below)
* Read section 8 in the Participant Manual

**Introduction 10 minutes**



1. ATP to stand in a circle. Explain that you will start the telephone game by saying a statement in the first person’s ear. They will then whisper it into the following person’s ear until it gets back to you. The last person in the circle will say the statement they heard out loud.
2. Use the following statement or make your own: “The biosand filter in Mr. Carruthers’ house at 493 Geronimo Street is having trouble with flow rate.” You can adapt the statement to use local names and locations.
3. If you feel like having even more fun, say the same statement to the person on the other side of you so it is moving in two directions.
4. Once it reaches you again ask the last person to say out loud what they heard. Was it the same or different?
5. ATP what could have improved the result and prevented the loss in information transfer.
* *Not involving everyone*
* *Writing the statement*
* *Breaking it in to smaller portions*
* *Clarifying they understood before moving on*
* *Not passing too many different messages in different directions*
1. Present learning expectations.

**Activities and Roles 20 minutes**



1. ATP to think of all the monitoring activities they have discussed so far. ATP to make a list of the monitoring activities. Record responses on the flipchart: *Monitoring Activities and Roles*.
* *Production site collection*
* *Field visit collection*
* *On the spot situational analysis and improvement*
* *Follow up situational improvement*
* *Group and long term trend analysis and improvement*
1. ATP to identify what possible roles could fulfill each monitoring activity. Remind them that they may have to put in new roles, not just the ones that are currently present in the project.
* *Production site collection – BSF Technician, Supervisor*
* *Field visit collection – BSF Technician, Supervisor, CHP*
* *On the Spot situational – BSF Technician, CHP*
* *Follow up situational– BSF Technician, CHP*
* *Group and long term trend– Information Manager, BSF Technician , CHP, Supervisor, Project Manager*
* *Supervising activities – Supervisor, Project Manager*
* *Reporting – Supervisor, Project Manager*
* *Reviewing monitoring – Supervisor, Project Manager*
1. ATP why it is important to clarify how information flows between each of the activities and roles?
* *To not lose information*
* *To ensure problems are resolved*
* *To ensure improvements are made*
* *To ensure the management knows what is happening*
* *To prevent problems from continuing to happen*

**Mapping Information Flow 25 minutes**



1. Show the example of information flow from Aqua Clara International found in the Participant Manual.

**Figure 6.6.2: Aqua Clara International Information Flow**

**BSF Technicians** are informed when problems have been found and there is a discussion to fix the problems and process and capacity improvements made.

**Community Health Promoters** hand in monitoring forms to ACI and discuss problems they noted.

**ACI Monitoring Staff** review, input and analyze the information.

1. Post the flipchart: *Information Flow Discussion Questions.* ATP to look at the flow and suggest possible answers to the following questions based on the information given:
* How is the information collected?
* How do the forms get back to the organization?
* What happens with the information that indicates problems in the field?
* How are the problems fixed?
* How are improvements made?
* How are the end users informed?
* How is management informed?
1. Divide the participants into groups of 3-4. Give each group one situational and one trend scenarios and a piece of flipchart:

Situational:

1. BSF Production – Diffuser holes too big and the diffuser doesn’t sit flat in the filter
2. Sand Preparation – Installation flow rate is too fast
3. BSF Post Installation – Filter flow rate too fast / Filter flow rate too slow
4. WASH follow up – Storage container inappropriate and dirty

Trend:

1. BSF Production – 15% breakage when demolding
2. Sand Preparation – 25% sand sets rejected at installation
3. BSF Post Installation – 55% filters unused
4. WASH follow up – 65% safe storage containers not in use
5. ATP to create a flow chart of how the information and problems will be managed in their project and by whom. ATP to consider the same questions on the *Flow Discussion Questions* flipchart.
6. As a whole group, move to each flipchart and discuss the suggested system of flow. Make any adjustments agreed upon. Address any concerns or questions for each scenario.

**Review 5 minutes**



1. ATP to pair share two reasons why communication flow will be important in their project for successful monitoring.
2. Share a few as a group.

**Reflections on Lesson**

Lesson Plan 17: Communication **45 minutes total**

****

**Learning Expectations**



1. Create a list of key information to be communicated, to whom, and methods to do so.
2. Create a work plan for those involved in communication.

**Materials**



* Flipchart paper
* Markers
* Tape

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Print Figure 17.1 and 17.2 (1 per participant – double sided if possible)
* Draw Figure 17.1 and 17.2 on separate flipcharts with the headings *Communication Flow In* and *Communication Flow Out*
* Read section 8 in the Participant Manual

**Introduction 5 minutes**



1. Divide the participants into groups of 3-4. Explain that this is the one minute challenge.
2. ATP to write as many ways to communicate as possible in one minute. (Give them more time if you feel like they need it, but keep the pressure on.)
3. ATP to circle the forms of communication that will be used during monitoring.
4. Present learning expectations.

**Communication Flow 20 minutes**



1. Divide the participants into groups of 3-4. Hand out copies of Figures 17.1 and 17.2.
2. ATP to consider Figure 17.1 in relation to their own project. ATP to add or remove any role that is not applicable to their project. If it is very different, ATP to redraw the project communication flow beside Figure 8.1.
3. ATP to discuss who would want to know what information is coming in. On the table specify the types of information that would flow between each role.

(For example: WASH follow up form = End user to CHP, CHP to Supervisor).

1. ATP to record their ideas on their papers.
2. Share as a whole group. Record the results on the flipchart *Communication Flow In*
3. ATP to consider Figure 17.2 in relation to their own project. ATP to add or remove any role that is not applicable to their project.
4. ATP to discuss who would want to know what information is going out. On the chart specify the types of information that would flow between each role.

(For example: BSF Post Installation form = Supervisor to BSF Tech or CHP, BSF Tech or CHP to End User).

1. ATP to record their ideas on their papers.
2. Share as a whole group. Record the result on the flipchart *Communication Flow Out*.

**Communication Format 15 minutes**



1. Divide the participants into two groups. Give each group one of the master flipcharts created in the previous activity to use as a reference and to record their ideas.
2. For each communication link between roles, ask the groups to discuss what format the information will be presented: verbal, written (specify level of formality), in detail or overview of key points.
3. Ask the groups to discuss who would be responsible for each.
4. Ask each group to present their discussion in less than 2 minutes – stick to the highlights. Add any additional thoughts.

**Review 5 minutes**



1. ATP to stand in two rows facing each other. One row is A, the other is B.
* A tell B the form of communication they find the easiest and why.
* B tell A the form of communication they find the most difficult and why.

**Reflections on Lesson**

**Figure 17.1: Possible Communication Flow In**

Technicians

Data Management Team

Project Manager

Supervisors

End Users

Community Health Promoters

Trainers

**Figure 17.2: Possible Communication Flow Out**

Technicians

Data Management Team

Project Manager

Supervisors

End Users

Community Health Promoters

Trainers

Lesson Plan 18: Logistics and Resourcing **45 minutes total**

****

**Learning Expectations**



1. Discuss and plan for the logistical needs necessary for monitoring activities.
2. Discuss and plan for the resources needed for all monitoring activities: human, material, financial.

**Materials**

* Flipchart
* Markers
* Tape
* Eggs (or other fragile object)
* 4 rings big enough to fit an egg
* String
* Projector
* Computer
* Screen

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Cue the Clean Water for Haiti PowerPoint (or print copies if there is no projection capability)
* Cut different lengths of string: 0.5 – 1.5 meters long
* Prepare 3 rings with string by taking 6 pieces of string and tie one end of each string to each ring
* Read section 9 in the Participant Manual

**Introduction 10 minutes**



1. Choose a place outside of the training room that requires going through doorways and around objects to get to.
2. ATP to all walk from the training room to this place you have chosen and then to return to the training room.
3. Divide participants into groups of 4-5. Hand out the rings and ask the participants to hold the end of a string so the ring is balanced in the air. Place an egg on each ring. Ask each group to go back to that place they just were without dropping the egg. Explain that they can’t touch the strings anywhere else but at the ends.
4. Once they reach the destination, ATP to discuss in their group what they had to do differently the second time compared to the first.
* *Coordination and team work*
* *Consider others needs*
* *Work around the obstacles together*
* *Talk to each other and figure it out together*
1. ATP how this relates to coordinating monitoring activities?
2. Present learning expectations.

**Logistics of Activities 20 minutes**



1. Present Clean Water for Haiti PowerPoint.
2. Divide the participants into three groups. Ask the groups to discuss the logistics that were involved in carrying out their monitoring activities. Share as a group.
3. Divide the CAWST monitoring forms between the three groups: BSF Production, BSF Post Installation and WASH Follow Up. Hand out enough half pieces of flipchart paper to each group for the number of monitoring forms they have.
4. Explain that each half flipchart is to present their ideas for each of the monitoring forms.
5. ATP to look at each monitoring form for the following logistical factors:
* Transportation
* Gathering information from the collection point to a central location
* Resolving problems
1. Go through the example below with them:

**Sand Preparation Site:**

* Collect information on form
* Identify problems
* Resolve
* Who? How? How often?

 Who? How?

 When? How often?

 To Who?

Who? How?

**Office:**

* Input information from forms
* Trend analysis
* Identify problems
* Resolve/Improvement Recommendations
* Who? How? How often?

 When? How often?

 To Who?

1. ATP to consider and mark anything that would change depending on the time of year. Add this to their flipchart.

**Resourcing Monitoring Activities 10 minutes**



1. Set the string activity set up again with the groups. ATP what is the minimum number of strings needed to hold the egg up?
* *3 strings*
1. ATP what each string represents with respect to the resources required for successful monitoring.
* *Human, material and financial*
1. Ask each group to discuss and record the human and material resources that would be needed from the logistics activity, including transportation.
2. Ask the groups to have a look at the others’ work with the option to comment and add to the other flipcharts.

**Review 5 minutes**

1. Write the statements below on flipchart paper. ATP to choose any two of the statements and complete them:
2. Something I was excited to learn was…
3. I feel….
4. I was surprised…
5. I was wondering…
6. I realized…
7. I appreciated…
8. I felt challenged….

**Reflections on Lesson**

Lesson Plan 19: Roles, Responsibilities and Capacity

 **45 minutes total**

****

**Learning Expectations**



1. Define the key roles for each stage of monitoring.
2. Identify the responsibilities of each role.
3. Identify people to fill each role and assess their capacity.

**Materials**



* Flipchart
* Markers
* Tape
* Small sheets of paper for introduction

**Preparation**

****

* Write the session Learning Expectations on flipchart paper
* Prepare a flipchart with the heading: *Building Process and Capacity* and write the boxes from the Capacity topic section below
* Print copies of *Table 19.1:* *Example of Roles, Responsibilities and Capacity* found at the end of this lesson (1 per group)
* Read section 6 in the Participant Manual

**Introduction 5 minutes**



1. ATP to write down their present role and responsibilities.
2. ATP to write down the ways they were trained or learned how to fulfill the responsibilities of their role.
3. ATP to share what they wrote with a partner.
4. ATP to discuss how monitoring may change their responsibilities.
5. Present learning expectations.

**Roles and Responsibilities 15 minutes**



1. ATP to list all the roles that will be necessary to carry out the monitoring activities.
2. Divide the participants into three groups. Split the roles between the groups. Hand each group a piece of flipchart.
3. Ask each group to identify the responsibilities for each role. Record on flipchart paper.
4. Ask each group to compare their list with the list to Table 6.4.1 in the Participant Manual.
5. ATP to review each of the roles and responsibilities that they listed. Discuss and record conclusions, changes, or additions.

**Capacity 20 minutes**



1. Explain that the groups are going to determine the existing capacity to fulfill the roles and responsibilities, and the organization’s strategy to build and support the necessary processes and capacity.
2. Post the flipchart: *Building Process and Capacity* for the participants to use.

**Role –** Who, at present, is involved in the activity?

**Responsibility** - What do the individuals need to do the activity successfully?

**Existing Process and Capacity** –What processes are already in place? What processes need to be developed? What is the capacity of the individuals to date?

**Strategy for Building Process and Capacity** – What processes need to be in place to help them? What resources or training is required to bridge the gap in their capacity?

1. Explain that if there is a gap in staff availability, meaning someone has to be hired, mark them as New Staff 1, New Staff 2, etc.
2. Do an example with the whole group.

|  |  |
| --- | --- |
| **Role** | Filter technician |
| **Responsibility**  | Consistently prepare sand (sieving and washing) that gives the correct flow rate. |
| **Existing Process and Capacity** | Filter technicians can prepare sand that is appropriate 60% of the time. Sand sieve analysis and test installations have not been performed to date. |
| **Strategy for Building Process and Capacity** | Process: Organize a system to check sand preparation at the production site before washing with a sand sieve analysis on each new batch of sand as well as a test installation and flow rate check before sand preparation continues to completion.Capacity: Training on sand analysis, washing and trial installations.  |

1. Hand out *Table 19.1:* *Example of Roles, Responsibilities and Capacity* (found below) to each group.
2. Share as a whole group. Record conclusions, changes and additions.

**Review 5 minutes**



1. ATP to pair share one new process each that they have learned for monitoring and what capacity will be needed to do it.
2. Share a few as a whole group.

**Reflections on Lesson**

| **WHOSE CAPACITY** | **RESPONSIBILITY** | **EXISTING PROCESS AND CAPACITY** | **STRATEGY FOR BUILDING PROCESS AND CAPACITY** |
| --- | --- | --- | --- |
| Filter technicians | Consistently produce functional filter boxes, record details of each filter  | Filter technicians that can produce functional filter boxes 55% of the time, no recording at this time | On the job training and mentoring on technical capacity for effective filter production. Training and mentoring on collecting information and self- reflective and action based problem solving capacity to make improvements. |
| Consistently prepare sand that provides appropriate flow rates and maintain tools in good condition | Filter technicians can prepare sand that is appropriate 60% of the time. Sand sieve analysis and test installations have not been performed to date and tools are not consistently cared for. | On the job training and mentoring on sand sieve analysis of each new batch of sand, organization of production site, sand sieving, sand washing, test installations and tool care. |
| Install filters efficiently and effectively, record details of flow rates and installation  | Filter technicians can effectively install filters, check flow rates, but do not record information consistently or ensure that at installation the filter meets all 8 operating parameters. | On the job training and mentoring on collecting and recording important information, problem solving and acting on filters that are not functioning optimally upon installation. |
| Filter technicians | Train end users effectively using participatory methods with behaviour change in mind | Can deliver information in a lecture style format. There is no participation or checking for understanding of the participants | Program development to create activity based training program that is participatory and more effective for learning.  |
| Troubleshoot and solve problems of filters installed at least 1 month earlier | Only 25% of filters have been followed up with and problems identified with those that have been followed up have not been fixed. | More strategic planning to ensure time and resources are allocated to do the visits as well as possible return visits. Troubleshooting and action training to address small issues at the moment. A recording system and planning to return to filters that needed further attention within one week of preliminary visit. Information recorded for each filter. |

**Table 19.1: Example of Roles, Responsibilities and Capacity**

Lesson Plan 20: Timeline and Growth **60 minutes total**

****

**Learning Expectations**



1. Create a table to visualize monitoring timeline and resource needs with project growth.

**Materials**



* Flipchart
* Markers
* Tape

**Preparation**

* ****Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading *Post Projection Discussion Questions* and write the following questions:
* How they will grow responsibly?
* What resource considerations need to be made with anticipated growth, like hiring and training needs?
* How will they will staff and resource the peak times of filter production, installation and household visits?
* How will they factor in fixing problems identified and making improvements to process and capacity?
* Print Parameters and Discussion Questions, Example Projection Tables and the blank Projection Table located at the end of this lesson plan (1 per participant – double sided if possible)
* Read section 9 in the Participant Manual

**Introduction 5 minutes**



1. ATP to pair share what a plant needs in order to grow?
* *Water, nutrients, light*
1. ATP to pair share how a plant could become sick?
* *Not enough or too much water, nutrients, light*
1. ATP to pair share how monitoring is like a growing plant.
* *Monitoring need nurturing, to be fed and given light in order to grow*
* *Without proper attention, monitoring will not grow properly or at all*
1. Present learning expectations.

**Monitoring and Project Growth 50 minutes**

1. Divide the participants into groups of 4. ATP to look at the example projection tables based on the parameters and the discussion questions.

**Parameters - Example 2**:

* First 6 months = 100 filters/month
* Months 6-12 = 150 filters/month
* Year 2+ = 200 filters/month
* Follow up Visits at 1 month, 3 months and 12 months

**Discussion Questions:**

1. How long is the production site operational?
2. What is the timeline on support to the household based on the follow up visits?
3. How many people would they need to be doing follow up visits at the beginning?
4. How many people would they need to be doing follow up visits at the peak time?
5. When would they have to start training and mentoring more people?

**Parameters - Example 1**:

* 240 filters in six months
* 1 post installation visit (month 1)
* 4 household visits (month 2, 4, 6 and 12)
* Average of 40 filters produced and installed per month

**Discussion Questions:**

1. How long is the production site operational?
2. What is the timeline on the project including follow up visits?
3. What is the timeline on support to the household based on the follow up visits?
4. How many people would they need to be doing follow up visits at the peak time?
5. How long would the filter technicians be employed?
6. How long would the Community Health Promoters be employed?
7. ATP to discuss the plans and parameters of their project and to create a projection table.
8. How many filters?
9. How much time?
10. How many filter installations per month?
11. How many household follow up visits?
12. What is their growth projection for number of filters produced per month?
13. Based on the table created, put up the *Post Projection Discussion Questions* flipchart and ATP to discuss the following topics:
14. How they will grow responsibly?
15. What resource considerations need to be made with anticipated growth, like hiring and training needs?
16. How will they will staff and resource the peak times of filter production, installation and household visits?
17. How will they factor in fixing problems identified and making improvements to process and capacity?
18. If this activity projecting and discussing growth is cut short put Growth Projection and Discussion on the TO DO list.

**Review 5 minutes**



1. ATP to think of one thing that surprised them in this activity.
2. Share as a whole group.

**Reflections on Lesson**

**Table 21.1: Project Growth and Monitoring Resource Projections - Example 1**

**Parameters - Example 2**:

* First 6 months = 100 filters/month
* Months 6-12 = 150 filters/month
* Year 2+ = 200 filters/month
* Follow up Visits at 1 month, 3 months and 12 months

**Discussion Questions:**

1. How long is the production site operational?
2. What is the timeline on support to the household based on the follow up visits?
3. How many people would they need to be doing follow up visits at the beginning?
4. How many people would they need to be doing follow up visits at the peak time?
5. When would they have to start training and mentoring more people?

**Parameters - Example 1**:

* 240 filters in six months
* 1 post installation visit (month 1)
* 4 household visits (month 2, 4, 6 and 12)
* Average of 40 filters produced and installed per month

**Discussion Questions:**

1. How long is the production site operational?
2. What is the timeline on the project including follow up visits?
3. What is the timeline on support to the household based on the follow up visits?
4. How many people would they need to be doing follow up visits at the peak time?
5. How long would the filter technicians be employed?
6. How long would the Community Health Promoters be employed?

**Project Parameter Questions -**

1. How many filters?
2. How much time?
3. How many filter installations per month?
4. How many household follow up visits – Post Installation and WASH Follow Up?
5. What is their growth projection for number of filters produced per month (what is the starting amount and what will be the maximum)?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Group of Filters Installed** | **Number of Filters in the Group** | **Post Installation Visit Month 1** | **WASH Follow Up Visit Month 2** | **WASH Follow Up Visit Month 4** | **WASH Follow Up Visit Month 6** | **Total Visits in the Month** | **# Visits per Day****(20 days /month)** |
| 1 | A | 40 |  |  |  |  | 0 | 0 |
| 2 | B | 40 | A |  |  |  | 40 | 2 |
| 3 | C | 40 | B | A |  |  | 80 | 4 |
| 4 | D | 40 | C | B |  |  | 80 | 4 |
| 5 | E | 40 | D | C | A |  | 120 | 6 |
| 6 | F | 40 | E | D | B |  | 120 | 6 |
| 7 |  |  | F | E | C | A | 160 | 8 |
| 8 |  |  |  | F | D | B | 120 | 6 |
| 9 |  |  |  |  | E | C | 80 | 4 |
| 10 |  |  |  |  | F | D | 80 | 4 |
| 11 |  |  |  |  |  | E | 40 | 2 |
| 12 |  |  |  |  |  | F | 40 | 2 |
| 13 |  |  |  |  |  |  | 40 | 2 |
| 14 |  |  |  |  |  |  | 40 | 2 |
| 15 |  |  |  |  |  |  | 40 | 2 |
| 16 |  |  |  |  |  |  | 40 | 2 |
| 17 |  |  |  |  |  |  | 40 | 2 |
| 18 |  |  |  |  |  |  | 40 | 2 |

A quick way to check the number of visits necessary is to multiply the number of filters to be installed per month by the number of visits planned per household. (# filters/month X # planned visits = 3 visits needed per month)

**Table 21.2: Project Growth and Monitoring Resource Projections – Example 2**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Group of Filters Installed** | **Number of Filters in Group** | **Follow Up** **Visit 1****(Month 1)** | **Follow Up Visit 2****(Month 3)** | **Follow Up Visit 3****(Month 12)** | **Total Visits in the Month** | **# Visits per Day****(20 days/month)** |
| 1 | A | 100 |  |  |  | 0 |  |
| 2 | B | 100 | A |  |  | 100 | 5 |
| 3 | C | 100 | B | A |  | 200 | 10 |
| 4 | D | 100 | C | B |  | 200 | 10 |
| 5 | E | 100 | D | C | A | 300 | 15 |
| 6 | F | 100 | E | D | B | 300 | 15 |
| 7 | G | 150  | F | E | C | 450 | 23 |
| 8 | H | 150 | G | F | D | 450 | 23 |
| 9 | I | 150 | H | G | E | 450 | 23 |
| 10 | J | 150 | I | H | F | 450 | 23 |
| 11 | K | 150 | J | I | G | 450 | 23 |
| 12 | L | 150 | K | J | H | 450 | 23 |
| 13 | M | 200 | L | K | I | 600 | 30 |
| 14 | N | 200 | M | L | J | 600 | 30 |
| 15 | O | 200 | N | M | K | 600 | 30 |
| 16 | P | 200 | O | N | L | 600 | 30 |
| 17 | Q | 200 | P | O | M | 600 | 30 |
| 18 | R | 200 | Q | P | N | 600 | 30 |

A quick way to check the number of visits necessary is to multiply the number of filters to be installed per month by the number of visits planned per household. (# filters/month X # planned visits = 3 visits needed per month)

**Project Growth and Monitoring Resource Projections**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Group of Filters Installed** | **Number of Filters in the Group** | **Visit 1**  | **Visit 2** | **Visit 3** | **Visit 4** | **Total Visits in the Month** | **# Visits per Day****(20 days/month)** |
| 1 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |  |  |
| 17 |  |  |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |

Lesson Plan 21: Budgeting **30 minutes total**

****

**Learning Expectations**



1. Create a list of costs associated with monitoring.
2. Estimate actual costs of monitoring.

**Materials**



* Flipchart
* Markers
* Tape

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Monitoring Resource Needs and Costs*

**Introduction 5 minutes**



1. ATP to estimate how much food costs them for a week.
2. ATP to estimate how much it would cost if 4 more family members needed to be fed for the week.
3. Share as a group.
4. ATP to discuss what they would have to do to accommodate this increase in spending.
5. Present learning expectations.

**Budgeting 20 minutes**



1. Divide the participants into groups of 3-4. Ask the groups to create a list of the things that will be needed for monitoring.
* *Staff time*
* *Transportation*
* *Forms*
* *Computer for data management*
* *Clipboards for household visits*
* *Sand sieve analysis kit*
* *Extra materials for repairs*
* *Badge or Tshirt for staff or CHPs doing visits*
* *Pens*
* *Printing of graphs and reports*
1. Share as a group and record the responses on the flipchart *Monitoring Resource Needs and Costs*.
2. In their groups, ATP to estimate monthly costs of each item.
3. Share estimates and put on the master list.
4. If there is any question marks or follow up needed put *Budgeting Monitoring* on the the TO DO list.

**Review 5 minutes**

1. Explain to the participants that this is the final lesson. ATP to complete the statement: I feel….
2. Share as a group.

**Reflections on Lesson**

L**esson Plan 22: Monitoring Plan**

**90 minutes total**

****

**Learning Expectations**



1. Create a plan with all of the key parts of monitoring activities.
2. Discuss how to integrate monitoring into existing project activities.

**Materials**

* Flipchart
* Markers
* Tape
* Small sheets of paper

**Preparation**

****

* Write the session Learning Expectations on flipchart paper.
* Prepare a flipchart with the heading: *Integration Strategies*
* Prepare a flipchart with the heading: *To Make Monitoring a Success I Will…*
* Prepare an adapted Monitoring Plan Template to meet the needs of the project (Template presented in Appendix E, but a soft copy should be given to the project manager)
* Organize key information collected through the week to use in preparing the Monitoring Plan

**Introduction 5 minutes**



1. Divide the participants into groups of 3-4. Explain that this is a challenge and they have 2 minutes to complete it.
2. ATP to list all the things they can plan for in life or in your work.
3. ATP to discuss why a plan is important.
4. ATP to discuss if a plan is set in stone or it can change and why.
5. Present learning expectations.

**Monitoring Plan 60 minutes**



1. Divide the Monitoring Plan Template into sections of divide the sections between the groups.
2. ATP to review all the information collected on their sections and fill in what they can on the template.
3. ATP to exchange their template with another group to review and add or complete sections left blank. Exchange the templates again until each group has seen each part of the monitoring plan.
4. Discuss any questions, blanks, differences of opinion as a whole group.
5. Ask the groups to discuss which parts of the plan might change through the life of the project.
* *From the sources and methods of collection to the right of the table*

**Integrating Monitoring Into a Project 20 minutes**



1. Pass out small sheets of paper. ATP to write out their weekly work schedule.
2. ATP to then write out their daily work schedule.
3. ATP to look at the list of monitoring responsibilities and insert where they fit into their schedule. Make note of any changes made to accommodate the new responsibilities.
4. In the same groups as previous, ATP to share how they will fit monitoring into their roles.
5. If there are any roles that are not represented by the individuals in the room, map out the weekly, daily and monitoring activities as a whole group.
6. ATP to discuss strategy of how to introduce monitoring to the rest of the staff and get their support for the new activities. Record the strategies discussed on the flipchart: *Integration Strategies*

**Review 5 minutes**

1. Put up the flipchart: *To Make Monitoring a Success I Will…*
2. On a sticky note, ATP to complete that statement.
3. Ask each participant to read their statement aloud and then stick it to the flipchart paper

**Reflections on Lesson**

Lesson Plan 23: Workshop Closing **65 minutes total**



**Learning Expectations**



1. Review all topics covered.
2. End of workshop Self Assessment.
3. Review *Group Learning Expectations* to see if they were met.
4. Complete a final evaluation of the workshop.

**­­­**

**Materials**

* Flipchart
* Tape
* Markers
* Stickers for Self Assessment
* Certificates
* Final evaluations
* CDs

**Preparation**



* Write the session Learning Expectations on flipchart paper
* Review Graffiti explanation in Lesson Plan 7 and prepare any materials needed for the activity
* Prepare stickers for Self Assessment activity
* Print certificates (double check the names and make sure each participant is accounted for)
* Print the final evaluation (1 per participant)
* Burn the participant CDs (1 per participant)

**Introduction 25 minutes**



1. Explain to the participants that they will do the Graffiti activity (See Lesson Plan 7 for explanation) to review the key topics of the workshop.
2. ATP to go around the room and read what people wrote on each graffiti topic.

**Self Assessment 10 minutes**

1. ATP to do the self assessment from the beginning of the workshop. Discuss the results with the entire group. Would the workshop be considered a success?

**Learning Expectations Revisited 10 minutes**



1. Review the Group Learning Expectations from the first day and see if all of them were addressed. If not, give options for participants to find the information they were looking for or identify next steps for follow up.

**Certificates and Final Evaluations 20 minutes**



1. Make your final comments on the workshop and the participants.

Option A: Hand out the certificates randomly. Each participant presents to the participant whose certificate they were given and expresses to them something they appreciated or learned about that person through the workshop.

Option B: You hand out the certificates. (This may be more appropriate in certain countries.)

1. Ask each person to say what they feel at the end of the workshop:

“My favorite part was \_\_\_\_\_\_\_\_\_.”

**Reflections on Lesson and Workshop Overall**