

Training of Trainers
on
**WATER QUALITY TESTING
AND TREATMENT**

Facilitator's Manual



■ ABOUT THE COURSE BOOK

This module was prepared with the assistance of RedR India's training team based on existing training modules on the same topic but contextualized using the rich experience gained by RedR India consultants and members in their response to the devastating floods in Kerala in 2018. The module is dedicated to all the workers both governmental and otherwise and volunteers who were active in providing safe drinking water to those affected by the flood.

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■ LIST OF ABBREVIATIONS

WASH Water Sanitation and Hygiene

ToT Training of Trainers

TNA Training Needs Assessment

LNA Learning Needs Assessment

ORS Oral Rehydration Solution

ITN Insecticide Treated Nets

USAID Unites States Agency for International Development

NTU Nephelometric Turbidity Unit

■ 1.ABOUT THE MODULE

Around 80-90% of households in Kerala consume water from open sources which are bound to have contamination even if they are largely wells. A key safe guarding practice is of boiling water before consumption. However, the floods led to extensive damage to wells in the worst affected panchayats and this caused significant short- and mid-term water shortage and post flooding water quality issues. In many of the hilly areas water shortage is also a perennial issue particularly in the drier months post north east monsoon when most sources dry up and have high turbidity. In such a case, the risks of water-related issues and diseases may get further compounded due to vagaries of rainfall and impact of changing climatic conditions on environment and habitat. Over the years and through traditional safe water practices, knowledge and skills on water testing, handling and treatment are largely absent in the villages of Kerala.

In order to redress and improve this situation, RedR in partnership with National Stock Exchange Foundation is undertaking **'Training of Trainers Program on Water Quality Testing and Treatment'** of communities with the support of Kudumbashree and the Health Department at district level to improve preparedness, knowledge and skills on water quality testing and treatment of communities. This Training of Trainers (ToT) Module on Water Quality Testing and Treatment emphasizes firmly on learning by practising. The participants will learn through experience, observation and feedback. This three-day ToT module will take participants through a learning process facilitated using mix methods including brain storming, group work, learning games, demonstrations and practice sessions. Since ToT is an intense learning process emphasizing self-reflection regarding communication skills, applying creative minds for using participatory methods and self-expression the ToT trainers will also engage in one to one hand holding process for designing practice sessions.

Broadly this three-day ToT module is divided in three sets of activities.

The first is a set of six technical sessions providing a comprehensive understanding of water quality testing and treatment. These six sessions will cover topics the following topics:

- Significance of WASH in Emergencies
- Safe Drinking Water in Emergencies
- Sanitary Surveillance
- Basics of Water Quality Testing
- Water Treatment in Emergencies
- Water Treatment: Well Water Treatment and Well Repair

The second comprises of three sessions which aim to improve the understanding of training processes and role of trainers. These three sessions will cover topics related to the basics and fundamentals of training skills including:

- Adult learning principles
- Training Design and Developing Session Plans
- Training methods and tools
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The third activity is designed for participants to develop their own short presentations (practice sessions) and delivering them either in small groups or in a plenary for feedback and critique. This activity will happen twice throughout the course so participants can incorporate feedback from one time into the following practice.

The first round of practice sessions is termed as participants led Sessions. These sessions will primarily look into the basics of communication skills, time management, participatory approach,

appearance and application of training tools. The feedback to each participant to their mini sessions will be provided using appreciative inquiry approach and the participants will be motivated to rethink styles or enhance the skills.

The second round of practice sessions is termed as Field Training where participants will form groups to deliver half-day comprehensive training on water quality testing and treatment for community members. These sessions will primarily look in to the facilitation skills, skills to respond to participants' queries, selection and application of training methods, ability to communicate key learning points and effectiveness of using multiple training aids.

Structure of the Module

The entire training package is designed in a manner that is directed towards enabling the trainers to conduct training on Water Quality Testing and Treatment. The individual sessions are designed as such to have separate session objectives, key learning points, session delivery plan, training aids etc. At the onset of any training, the trainers would be expected to study the participants' profile, the objectives that the training wishes to achieve and the wider programmatic context. If needed, the session briefs and/or the overall schedule may have to be tweaked accordingly.

A list of Energizers are also provided at the End. This energizers are usually 10-15 minutes activities and can be used as ice –breaker or as break from long sessions.

Each session brief follows the below described structure-

1. Content, Training Objectives and Expected Participants.
2. Training Schedule.
3. Session Plans with Key Learning Objectives, Key Learning Points, and Facilitator's Guide.
4. Training Evaluation Form.

Power point presentations for each session will be shared with the participants.

■ 2. SCOPE OF THE TRAINING

■ 2.1 Key Content

The course will cover the following topics and will be specifically designed for the representatives of the Kudumbashree self-help group members and Health Department frontline staff at district level who will be trained as Master Trainers.

- Introduction to WASH in Emergencies
- Basics of Sanitary surveillance
- Basics of Water Quality Testing and Treatment in Emergencies
- Introduction to Adult learning principles, learning styles and training methods

■ 2.2 Objectives of the Training

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

1. Understand the significance of WASH in emergencies
2. Explain basic concepts of Water supply, sanitation and hygiene in emergencies.
3. Build knowledge and skill on Water Quality Testing and Treatment in emergencies.
4. Hone their training and facilitation skills for conducting training on water quality testing and treatment in emergencies

■ 2.3 Participants

Participants for this training will be women community members and frontline staff of Health department at district level who have been identified by Kudumbashree District Coordinators and District Health Department.

3. DETAILED TRAINING SCHEDULE

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
1	0930 - 0945	Training Registration		
1.1	0945-1045	Welcome, Introduction and Course Overview	<p>By the end of this session participants will be able to:</p> <ul style="list-style-type: none"> • Introduce themselves to the other participants. • Clarify their expectations from the three days of this training. • Explain the learning process of 3 days ToT course. • List ground rules for the learning process of 3 days ToT course. 	<ul style="list-style-type: none"> • Participants and Trainers are familiar with the group • A good trainer is a good communicator and is able to express himself / herself to relate with the participants. • A good learning environment is essential for facilitating adult learning • The four days of WASH ToT course is structured as <ul style="list-style-type: none"> o Day one: Overview of WASH in emergencies and basics of water quality testing and treatment o Day two: Practical demonstration of water treatment of wells and facilitating training o Day three: Practice sessions of mini sessions on water quality testing and treatment
	1045-1100	Tea Break		

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
132	1100-1300	Significance of WASH in Emergencies	<p>By the end of this session participants will be able to:</p> <ul style="list-style-type: none"> Describe the post disaster situation of the affected population with special reference to causes of WASH risks. List the causes of mortality and morbidity in post disaster situation. Describe the faeco-oral transmission route and barrier Explain the epidemiological Triad and the linkage between WASH & diseases. Explain the hygiene improvement framework List elements of WASH 	<ul style="list-style-type: none"> WASH interventions should aim to reduce mortality and morbidity There could be barriers in transmission routes if appropriate interventions are undertaken at the right time such as building latrines for excreta disposal, hand washing at crucial times, food handling, food storage, primary source protection and protection of water at household level. Access to hardware, Hygiene promotion and enabling environment form the three pillars of HIF
1300 – 1345				
1.3	1345 -1445	Introduction to Safe Drinking Water in Emergencies	<p>By the end of the session, participants will be able to:</p> <ul style="list-style-type: none"> Explain the different kinds of contaminants of water and its implications for human consumption List the key quality and quantity parameters in emergency water quality standards Explain the different factors that lead to differing water requirements 	<ul style="list-style-type: none"> Some level of chemical contaminants can be tolerated in emergencies Sufficient quantity of water meeting minimum quality standards is better than little water of very high quality Addressing bacteriological contamination in emergencies should be the main focus Different social groups have different access to water sources and therefore should be consulted while designing a water response
1445-1500				
Tea Break				

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
1.4	1500 -1545	Introduction of Sanitary Surveillance	By the end of the session, participants will be able to: <ul style="list-style-type: none"> • Explain the significance and Need for Sanitary Surveillance • Make a checklist for the context 	<ul style="list-style-type: none"> • It is known as checklist method • Frame questions in the checklist in such way that YES indicates the presence of Risk.
1.5	1545 – 1715	Basics of Water Quality Testing	By the end of the session participants will be able to: <ul style="list-style-type: none"> • Describe various methods for water quality testing (micro, physical, chemical) • Explain and demonstrate technique for testing pH, residual chlorine and water turbidity 	<ul style="list-style-type: none"> • Core tests which can be completed quickly should be the focus during emergencies • The most important water quality parameter to measure in an emergency is the residual chlorine level after chlorination • pH and turbidity measurements are important to know to understand how to treat the water
1.6	1715 – 1730	Daily Feedback	Participants give feedback on three aspects: <ul style="list-style-type: none"> • What went well? • What could be done better? • Suggestions 	
Day 2				
2	0930 - 0945	Recap	Review, recapitulate and reflect on previous day's sessions	

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
2.1	0945 – 1130 (Tea break included)	Basics of Water Treatment in Emergencies	<p>By the end of the session, participants will be able to:</p> <ul style="list-style-type: none"> • Explain the basic methods of water treatment in emergencies. • List the points about handling storage and use of chlorine • Describe different dose of Chlorine for different water sources • Explain Alum, Flocculation and Coagulation 	<ul style="list-style-type: none"> • Water has to be brought to certain standards which qualify for drinking. • There are Water Quality Standards to measure different quality parameters during emergencies. (NTU Less than 5, EColi 0/100ml, Residue Chlorine 0.2-0.5 mg/ l) • The requirement of chlorine will be different according to the need of disinfection. • Chlorine is the only chemical that leaves a residue on water which is used to combat the secondary contamination & for Monitoring and evaluation • With Presence of residue chlorine water can be declared safe for drinking
2.2	1130 – 1315	Water Treatment: Well Water Cleaning and Disinfection	<p>At the end of this session participants will be able to</p> <ul style="list-style-type: none"> • Explain how to safely conduct well cleaning in a scientific and structured manner to provide a safe source of drinking water • Explain the importance of correct operation and maintenance measures 	<ul style="list-style-type: none"> • Well cleaning is a risky activity. Risks involved in well cleaning should be mitigated by preparation and safety measures. • Examination of the surroundings of the well and the well itself in a structured manner is required for appropriate well for cleaning and disinfection. • The steps of well cleaning need to be followed in sequential order. • Proper maintenance of wells is important to maintain water quality after cleaning. In situations where continuous contamination due to septic waste cannot be avoided, pot chlorination is recommended.
1315 – 1400		Lunch Break		

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
2.3	1400 - 1500	Adult Learning Principles	<p>At the end of this session participants will be able to</p> <ul style="list-style-type: none"> • Explain importance of applying adult learning theories and principles in the process of training design and delivery. • List four adult learning styles which are demonstrated by participants and trainers during learning process. • Describe the receiving, processing and using stages of learning process. • Describe adult learning principles which govern training and learning process. 	<ul style="list-style-type: none"> • Adults demonstrate combination of four learning styles (Activist, Pragmatist, Reflector and Theorist) in any learning process. • Adult learning process comprises of three stages of Receiving, Processing and Using. Every training process need to be designed to help participants to go through all the three stages. • Adult learning principles provide significance guidance in planning and delivering training process.
2.4	1500 - 1600	Training Design and Developing Session Plans	<p>At the end of this session participants will be able to</p> <ul style="list-style-type: none"> • List the five stages of the training cycle • Explain the Key learning objectives • Explain the Key Learning Points • Design a 'Session Plan' 	<ul style="list-style-type: none"> • Training cycle involves, Training Needs Assessment (TNA)/ Learning Needs Assessment (LNA), training design, training logistics, training delivery, evaluation and follow up • A session plan should have concise key learning objectives and key learning plans • The key learning objectives should be SMART • The key learning point need to follow : Must know, should know and could know”
1600-1615		Tea Break		

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
2.7.5	1615 -1700	Training Methods, Tools and Aid	<p>At the end of this session participants will be able to</p> <ul style="list-style-type: none"> • Explain Dale's Cone of understanding and remembering in the learning process. • List the Training methods, tools and aid • Explain the training methods, tools and aid • List the do's and don'ts of each method 	<ul style="list-style-type: none"> • Receiving, Processing and Using are the three stages of learning, which determine the selection of the training method for a particular session. • The facilitator needs to refer to Dale's cone while selection of the method with special reference to the processes of listening, watching, speaking and doing. • With special reference to water quality testing and treatment training topics the facilitator needs to select methods which help participants to do. • While planning for the training programme the trainer needs to identify water quality testing and treatment specific training aids. • Choose activities that are appropriate to the topic, group and time available • Blend techniques to stimulate and aid learning
8				
2.6	1700-1715	Group Formation for Participants led Sessions	Divide the participants into pair and allocate topics for participant led mini sessions the next day	
2.7	1715 – 1730	Daily Feedback	<p>Participants give feedback on three aspects:</p> <ul style="list-style-type: none"> • What went well? • What could be done better? • Suggestions 	
2.8	1730 onwards	Session Preparation Time for Participants		

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
Day 3				
3	0930 -0945	Recap of Previous Day	Review, recapitulate and reflect on previous day's sessions	
3.1	0945 - 1145	Mini Session Preparation Time (Tea-break included)		Participants are prepared for conducting their mini sessions
3.2	1145-1315	Participants' Mini Session Delivery (20/30 minutes Presentation + 5 minutes Feedback)	At the end of this session participants will be able to: <ul style="list-style-type: none"> • Explain significance of time management in session planning. • Demonstrate primary training skills including communication skills, body language, use of training method and training aid, participatory facilitation skills. • Describe dos and don'ts of dealing with critical moments. 	Key learning points of this session vary as per the skills demonstrated by the participants with reference to: <ul style="list-style-type: none"> • Clarity of the process for session delivery with special reference to key learning points. • Use of appropriate training methods for soliciting participation. • Organising physical space and training aids. • Appearance and opening of the session. • Importance of listening to participants. • Communication skills and body language. • Managing anxiety by taking deep breaths.
8				
Lunch Break				
3.3	1400-1530	Participants' Mock Session Delivery (20/30 minutes Presentation + 5 minutes Feedback)	Same as above	Same as above
3.4	1530-1545	Consolidation of Learnings	At the end of the session participants will be able to list key learning which they will be applying in their training practice.	KLPs of this session will emerge from the discussion of participants.

No.	Time	Sessions	Key Learning Objectives	Key Learning Points
	1545-1600	Tea Break		
3.4	1600-1615	Formation of Groups for Field Session and Scheduling	At the end of the session, participants will be divided into groups for the field training	
3.5	1615-1645	Course Evaluation and Closure	Participants evaluate the training course using a standard evaluation format, certificate and are handed out.	Filling out Standard training evaluation forms

■ 4. DAY ONE OF TRAINING

■ Session 1.1 Welcome, Introduction and Course Overview

 **Duration of the Session: 60 minutes**

Key Learning Objectives

By the end of this session participants will be able to:

- Introduce themselves to the other participants.
- Clarify their expectations from the three days of this training.
- Explain the learning process of 3 days ToT course.
- List ground rules for the learning process of 3 days ToT course.

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-5	Welcome participants to the training. Briefly explain the rationale for organizing this training.
6-25	Round of Introductions: Facilitators can quickly introduce themselves to the participants. Following this, the facilitator can ask participants to divide into pairs. Give them 5 minutes to enquire and understand some basic details about their partner including his/her name, place, profession and any hobby that he/she pursues. Participants in pairs have to then come forward and introduce each other.
26-50	Distribute flash cards to the participants for them to note down their expectations from the training. Ask participants to read out their expectation and come forward and put them up on a wall where everyone can see it. Once the facilitator has noted all the participants' course expectations, provide them with an overview of the entire training programme taking them through the agenda and explaining in brief the content that would be covered and the learning processes that would be used through the 3 days.
51-60	Ask participants about the ground rules they would like to have for the training. Keep noting them down on a flip chart. Once an exhaustive list has been drawn, request everyone to follow the ground rules

■ Session 1.2 Significance of WASH in Emergencies

 **Duration of the Session 120 minutes**

In this session the focus is on introducing participants to the concept of WASH, and how WASH is a big cause of concern during emergencies. Participants need to gain a conceptual understanding of WASH, WASH risks, faeco-oral transmission and the epidemiological triad.

Key Learning Objectives

By the end of this session participants will be able to:

- Describe the post disaster situation of the affected population with special reference to causes of WASH risks.
 - List the causes of mortality and morbidity in post disaster situation.
 - Describe the faeco-oral transmission route and barrier
 - Explain the epidemiological Triad and the linkage between WASH & diseases.
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Key Learning Points

- WASH interventions should aim to reduce mortality and morbidity
 - There could be barriers in transmission routes if appropriate interventions are undertaken at the right time such as building latrines for excreta disposal, hand washing at crucial times, food handling, food storage, primary source protection and protection of water at household level.
 - Access to hardware, Hygiene promotion and enabling environment form the three pillars of Hygiene Improvement Framework
-

List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-3	Briefly introduce the session objectives
4-10	Begin the session by asking participants on what happens after an emergency. Hear from the participants and list it on the flip chart. Later consolidate by saying the immediately in the aftermath of the emergency services are disrupted, communities are displaced and there is chaos in the community and overcrowding, etc. all this will lead to people using whatever minimum resource are left with them and there is an increase in risk practice which will lead to communicable diseases and thereby increase in mortality and morbidity. The key learning here is WASH interventions should aim to reduce mortality and morbidity
11 – 20	Now inform participants that we have been talking on various terms like disaster, risk, vulnerability, capacity, risk, emergencies; ask participants what does these terms means and ask if each of the terms are meaning differently. Later explain each term in detail and with examples wherever required. Ask participants to refer to reference book for more details on the definitions.
21 – 25	Introduce the risk formula ($R = H \times V \times E / C$). The risk equation links the key terms of disaster management. Explain the risk equation and highlight the effect of each of the variable on the level of risk. Facilitators are encouraged to use example of any disaster known to them to explain the linkages.
26 – 35	Explain how disasters disturb water supply, water sources and sanitation facilities and how it leads to health risk. Explain with examples how increased health risk can bring threats to life. Highlight few wash risks during emergency (particularly those that manifested in the Kerala floods).
36 - 45	Introduce the epidemiological triad to the participants. Explain participants that there is host and an environment in which the host lives in. The host is affected in the environment only due to the presence of agents present in the environment. These agents are not visible through naked eyes. These agents are present everywhere in the environment and is transferred or carried by certain vectors; vectors that include insects, mosquitos, rodents, animals and in certain cases the human beings too. These vectors transfer agents to host there by making the host susceptible.
46 – 50	A major focus of hygiene promotion is often the prevention of diarrhoeal or other communicable diseases. Introduce the F-Chart and inform participants that this diagram is effective as it shows how the faeces travels all the way and affects and person. Narrate to the participants that every day a person indirectly consumes .4 mg faces, this goes in a person mouth though fingers, field, flies and fluids and through food. Explain each one of the aspects in detail.

Time Slot in Minutes	Session Plan
51 – 60	However there could be barriers in transmission routes if appropriate interventions are undertaken at the right time such as building latrines for excreta disposal, hand washing at crucial times, food handling, food storage, primary source protection and protection of water at household level.
61 – 70	One should also know that each ‘appropriate’ intervention as seen through F – Chart is based on the disease pattern, diseases could be either water borne, water washed, water based or water related insect vector. Once the disease is determined then prevention strategies would be evolved. It should be noted that interventions differs as per disease pattern and every disease cannot be responded the same way.
71 – 80	Introduce the hygiene improvement framework by sequentially explaining the 3 elements of the framework starting from access to hardware, enabling environment and hygiene promotion. This model is based on the USAID model of Hygiene Improvement – you can adapt this for the emergency situation. It is important to show the links between hardware (provision of facilities) and software (hygiene promotion and enabling environments). The aim of hygiene improvement is to improve health or ensure that there are no outbreaks of water and sanitation related disease.
81 – 90	This slide provides examples only of different parts of the model, but it is not fixed and the list is not exhaustive. Participants may come up with other examples that can be added. The purpose of the model is to show the necessity and inter-relationship of all the aspects of a WASH intervention and the role that hygiene promotion has to play. Mention the limitations of the model: e.g. separation of hardware and software may give the impression that they function independently but should be working very closely together; can ORS and mosquito nets be regarded as hardware? Care must be taken when providing ORS, water treatment agents or ITNs that people know how to use them in the same way that people may need support to get the best out of the provision of latrines. In this way they can be considered as ‘hardware’.
91 – 95	Therefore water supplies (providing safe drinking water), sanitation and hygiene promotion is inter-related and in order carryout an effective WASH intervention, all the three components should be addressed accordingly as per the need.
96 – 106	WASH is a vast sector and involves various kinds of interventions based on the context and the emerging need. One should identify the need based on which that specific intervention should be strategically addressed. For this training we would only focus on water quality and water treatment interventions.
107-120	Open Discussion and Consolidation of learning Ask participants if there are any queries and consolidate this session with key learning points.

■ Session 1.3 Introductions to Safe Drinking Water in Emergencies

 **Duration of the Session 60 minutes**

In this session participants will be told about the different kinds of contamination in water and as a result what the different standards of water quality are. There will be also an emphasis on the varying quantitative and qualitative requirements of water in emergencies. This session builds on the understanding of WASH in emergencies explained in the previous session.

Key Learning Objectives

By the end of this session participants will be able to:

1. Explain the different kinds of contaminants of water and its implications for human consumption
 2. List the key quality and quantity parameters in emergency water quality standards
 3. Explain the different factors that lead to differing water requirements
-

Key Learning Points

1. Some level of chemical contaminants can be tolerated in emergencies
 2. Sufficient quantity of water meeting minimum quality standards is better than little water of very high quality
 3. Addressing bacteriological contamination in emergencies should be the main focus
 4. Different social groups have different access to water sources and therefore should be consulted while designing a water response
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List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-4	Quickly welcome participants to the session and explain the objectives of the session and request participants to freely express their thoughts for discussion and clarification.
5-12	<p>Start with saying that to understand what makes water safe, we need to understand what the contaminants are. This is about chemical contaminants</p> <p>Explain with examples of key un dissolved and dissolved particles that participants locally understand.</p> <p>The main issue with un dissolved particulates is with regard to taste and visibility.</p> <p>Dissolved particles may cause issues with taste (salt, iron) but also causes long term health impacts (arsenic, fluoride).</p> <p>Explain the Participants Un dissolved particulates refers to the suspended solids in the water, example mud, dirt, etc. & dissolved solids refer to minerals like sodium, potassium, carbonates, chlorides, fluorides etc.,</p> <p>Emphasize that Biological impurities are transmitted by faeco oral transmission routes and mainly responsible for diseases like dysentery, diarrhea, Cholera, colitis, caused by bacteria & Hepatitis & Rota caused by Virus.</p>
13-18	Start by mentioning about Sphere Standards and its application in water quality in emergencies. Next, ask a volunteer to read out the text. Explain the term by emphasizing on the key words related to water – safe, equitable, the different uses
19-23	<p>Allow participants to read the contents of the table.</p> <p>Ask participants to give their opinion on the quantities mentioned in the table and how relevant it is to Kerala.</p> <p>Emphasise that these standards are for emergencies. In normal times the quantity increases especially in developed countries.</p> <p>Context is everything!</p>
24-28	<p>Ask one participant to read one point out loud.</p> <p>Ask participants if in their experience of Kerala floods if this was met or no?</p>
29-33	Spend very little time on this slide. Let participants read the slide. Emphasize that water needs are not limited to personal household consumption and these uses must be kept in mind when determining total water quantity requirement.
34-38	<p>Ask participants what is meant by access</p> <p>Have an example of a situation you have seen where one of the vulnerable groups was unable to access the water facilities</p> <p>Ask participants to share if they saw any similar incidents</p> <p>Emphasize the importance of consultations when identifying locations</p>

Time Slot in Minutes	Session Plan
39-43	Ask a participant to read out the slide. Identify and explain briefly the key words here – palatable, drunk, personal and domestic hygiene and health risk.
44-48	<p>Explain that the presence of any coliform is dangerous in emergencies since people are more vulnerable</p> <p>People’s choice of water source is often a good indication of the water quality. Even if the water is free from coliform, if there is a foul taste or smell people will not use it.</p> <p>Briefly mention the points of Undissolved solids and residual chlorine. Mention that these will be discussed in detail in the next session.</p> <p>Mention Turbidity less than 5 NTU is needed for effective chlorination.</p>
49-53	<p>Slide 11: Initiate a discussion amongst participants on the relative importance of water quality or quantity. Ask participants to explain why they think it is better?</p> <p>Slide 12: Following the previous discussion come to this slide and present this conclusion. Explain with an example why this is the case. Ask participants if they agree with it or not and discuss with those who do not agree.</p> <p>Excerpt from WHO Guidelines for drinking water quality, Vol 3, 2004, p109 ‘Many chemicals in drinking-water are of concern only after extended periods of exposure. Thus, to reduce the risk of outbreaks of waterborne and water-washed (e.g. trachoma, scabies, skin infections) disease, it is preferable to supply water in an emergency, even if it significantly exceeds the guideline values for some chemical parameters, rather than restrict access to water, provided water can be treated to kill pathogens and can be supplied rapidly to the affected population’.</p>
54-58	Emphasize that there are a number of tests that can be done for water quality especially in non-emergencies. Explain the conditions when it is advisable to go for the full range of testing.
59-60	Consolidate the learning from the session and clarify questions if any.

■ Session 1.4 Introduction to Sanitary Surveillance



Duration of the Session 45 minutes

In this session participants will learn how to assess the risk posed by different water sources especially in the context of emergencies. Participants will use the knowledge learnt in the previous sessions on contamination of water sources to identify different risks that can impact water sources after a disaster.

Key Learning Objectives

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

1. Explain the significance and Need for Sanitary Surveillance
 2. Make a checklist for the context
-

Key Learning Points

- Sanitary surveillance is a basic visual survey which will give information about the potential pollutants in the water source. It is systematic assessment of safety and acceptability of drinking water supplies, based on structured observation of a number of potential risk factors, linked to an appropriate response.
 - The questions in the checklist should be framed in such way that the YES answer indicates the presence of risk.
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List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-2	Briefly introduce the session objectives
3-5	Explain participants about different sources of water, Surface water like ponds, streams, open-wells will be contaminated after emergency.
6-10	Sanitary surveillance is a basic visual survey which will give information about the potential pollutants in the water source. It is systematic assessment of safety and acceptability of drinking water supplies, based on structured observation of a number of potential risk factors, linked to an appropriate response. Explain how presence of industries, agricultural run downs can be a threat and the surveillance can be done at the water supply source, at the treatment works, in the distribution system. Also at point sources – public and private
11-15	The objective survey once done in a yes / no format can be done easily with non –technical people as well & hence more data can be collected in shorter period of time. It should be done on the spot and the checklist should be prepared on the spot. The questions in the checklist should be framed in such way that the YES answer indicates the presence of risk. Keep the question short, in phrases, symbols.
16-30	Group Work: Divide participants in groups ask the groups to observe the photo and prepare a checklist. (Time: 5 mins + 10 mins presentation)
31-35	Explain to participants how the checklist should be and how to fill in the data & to map the risk hazards.
36-40	Explain the hazard mapping & vulnerabilities according to the points or as per ranking
41-43	Explain to the participants that practically everyone can do the sanitary surveillance.
44-45	Consolidate the session with key learning points

■ Session 1.5 Basics of Water Quality in Emergencies



Duration of the Session 90 minutes

This session is meant to introduce participants to the various water testing methods and make them familiar with using apparatus and techniques of testing key quality standards required during emergencies. This understanding will equip participants to be able to test and treat water in the following sessions.

Key Learning Objectives

By the end of this session participants will be able to:

1. Describe various methods for water quality testing (micro, physical, chemical)
 2. Explain and demonstrate technique for testing pH, residual chlorine and water turbidity
-

Key Learning Points

- Core tests which can be completed quickly should be the focus during emergencies
 - The most important water quality parameter to measure in an emergency is the residual chlorine level after chlorination
 - pH and turbidity measurements are important to know to understand how to treat the water
-

List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-2	Quickly welcome participants to the session and explain the objectives of the session and request participants to freely express their thoughts for discussion and clarification
3-4	Mention that the parameters are drawn from the impurities discussed in the last session
5-6	Emphasize that microbiological, pH and Turbidity are the most important elements that need to be addressed in emergencies
7-8	List the types of Tests and explain in brief
9-10	Explain what a “core” test is Talk about how it is linked to the treatment requirements and need for other tests as well as how acceptable the water will be.
11-15	Explain briefly what each parameter means and why it is important to test always <i>In fast on-set emergency, debate whether E. coli test is necessary. Emphasize that in emergencies time and cost is a factor so it may be difficult to do it always. Nevertheless it is difficult. Residual chlorine test will ensure that there are no ecoli, coliforms.</i>
16-18	Explain that it focuses on different kinds of chemical contamination and is done far less in emergencies Mention the two key reasons why it is done – acceptability due to poor taste and smell, and long term health risk due to some chemicals(name them) It is important to know in an emergency if the area is known for chemical contaminants that cause health risks (example insecticides & pesticides in kuttanad)
19-21	Briefly mention each of the parameters Tell participants it is most important to recognize the when to test symptoms and make a decision since these tests are more complicated in emergencies
22-25	Briefly mention each of the parameters Tell participants it is most important to recognize the when to test symptoms and make a decision since these tests are more complicated in emergencies
26-30	These are the most important tests that need to be done in emergencies. Mention that it can ensure that treatment of water is done to the adequate standard. Talk about the impact of temperature on treatment

Time Slot in Minutes	Session Plan
31-45	<p>Practical Exercise: Have different water samples with 3 different levels of chlorine present</p> <p>Divide pairs between the 3 samples</p> <p>Instruct them on how to carry out the test</p> <p>Instruct assembly of Turbidity tubes A-A, B-B, show the participants the black circle at the bottom of the turbidity tube and facilitate how to measure turbidity</p>
46-50	<p>The most important role of treatability tests is to help in correctly identifying the kind and quantity of treatment that is required</p> <p>Explain briefly what chlorine demand test is. Mention that we will focus on it in detail in next session</p>
51-55	<p>Before going on to the practical tests explain the points on the slides</p> <p>Explain why it is important to know about turbidity</p> <p>Explain why it is important to check pH of water</p>
56-70	<p>Demonstration and Practice: Take 20 minutes between the Three tests</p>
71-75	<p>Explain that microbiological tests look for organisms which indicate faecal contamination</p> <p>These are expensive and more time consuming than tests discussed prior and hence not preferred in emergencies</p> <p>If water is being treated before consumption then these tests are not necessary in emergencies</p>
76-80	<p>Emphasize that the test only shows presence/absence of bacterial contamination but does not tell you what kind of bacteria or level of concentration</p> <p>Stress that it is a useful tool for public messaging on the need for treatment of water in emergencies</p> <p>Keep a sample showing high contamination</p> <p>Mention that this is available locally</p> <p>Demonstrate how water is collected in the sample and check the results the next day</p>
81-85	<p>Inform participants about the pitfalls of incorrect water sampling – how it affects results</p> <p>Speak about sterile bottles, where to obtain them and its features</p> <p>Demonstrate how samples must be collected</p>
86-90	<p>Consolidate the learning from the session and clarify questions if any.</p>

■ Session 1.6 Daily Feedback

This is a standard practice followed at every RedR India training. At the end of each day of the training, facilitators are expected to collect feedback from the participants to understand how well the sessions of the day have been received by the participants and whether any changes need to be made from the following day.

The process is as follows:

- At the end of the day, facilitators ask members of the Training Management Team (TMT) of that particular day to discuss with their respective group members two questions - “what went well?”, and “what are the suggestions for improvement?”.
- Once the TMT has collected all the feedback, the rest of the participants are allowed to leave the training venue for the day.
- The TMT then sits down with the training team to share the feedback received from their respective groups, which the training team makes a note of.
- Before beginning the next day’s sessions, facilitators share with the participants the suggestions received the previous day which they intend to incorporate during their sessions from that day on.

■ 5. DAY TWO OF TRAINING

■ Session 2.0 Recap of the previous day



Duration of the Session: 15 minutes

Facilitation Guide

The recap can be done in a group or through a game, the facilitator can use various ways to make it more interesting. The purpose of the recap is to make the participants go through the previous day session before going through the new sessions so that they can remember the key discussions. The participants should be encouraged to take part actively. The time can also be used for any discussion that was not completed the previous day however, the facilitator should remember to stick to the time slot.

One method of using game for recap session is through a ball game. The participants are asked to stand in a circle, a ball is passed across and whoever the ball is thrown at has to share few learnings about the previous day session.

■ Session 2.1 Basics of Water Treatment in Emergencies



Duration of the Session: 120 minutes

Background of the topic

This session builds on the knowledge of water quality standards and methods to test it covered in previous sessions. Participants are explained the basic treatment methods proceeded by practicals which include the calculation as well as preparation of chlorine solution from bleaching powder.

Key Learning Objectives

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

1. Explain the basic methods of water treatment in emergencies.
 2. List the points about handling storage and use of chlorine
 3. Describe different dose of Chlorine for different water sources
 4. Explain Alum, Flocculation and Coagulation
 5. Hands on Experience on Making 1 % Mother Solutions of Alum & Chlorine
 6. Practise on Batch Water Treatment with Alum & Chlorine
-

Key Learning Points

- Appropriate dosage of Chlorine is the one which leaves a residue in between 0.2-0.5 mg/l
 - Appropriate dosage of Alum is the one which forms the biggest flocks and settles the fastest.
 - Water has to be brought to certain standards which qualify for drinking.
 - There are Water Quality Standards to measure different quality parameters during emergencies.(NTU Less than 5, EColi 0/100ml, Residue Chlorine 0.2-0.5 mg/ l)
 - The requirement of chlorine will be different according to the need of disinfection.
 - Chlorine is the only chemical that leaves a residue on water which is used to combat the secondary contamination & for Monitoring and evaluation
 - With Presence of residue chlorine water can be declared safe for drinking
-

Time Slot in Minutes	Session Plan
0-2	<p>Slide No. 2: Session Objectives</p> <p>Quickly welcome participants to the session and explain the objectives of the session and request participants to freely express their thoughts for discussion and clarification. Inform the participants that through this session there will be plenary discussions and also hands on experience in making chlorine and alum solution and dosage</p>
3-5	<p>Slide No. 3: Possible Water Sources</p> <p>Linking to the session on sanitary surveillance, explain the participant's about the different water sources like ponds, streams, and open wells. Broadly they are classified as ground and surface water. Stress on the point that surface water will usually be contaminated in emergencies especially floods and flash floods.</p>
6-7	<p>Slide No.4: Treatment of Water in Rapid Onset Emergencies</p> <p>Explain the Participants that Water Treatment is broadly classified at sources & at Households, The choice has to be made on available chemicals , equipment's, density of the affected people, distance of water source ect. As pax to read this silently and briefly inform that these elements will be discussed in detail in the next slides.</p> <p>Before moving to the next slide, slightly inform participants on pressure Filters are sand filters packed in a vessel where water is passed with pressure and filtered for physical impurities.</p> <ul style="list-style-type: none"> • Impurities (Example Chlorine) • Pressure Filters are sand filters packed in a vessel where water is passed with pressure and filtered for physical impurities • Ultrafiltration is membrane filters with pore size of 0.01 microns which are capable of removing the bacteria & the virus. • Reverse Osmosis are membrane filters with pore size of 0.0001 microns which are capable of removing the dissolved solids like example sulphates, chlorides, Arsenic, heavy metals etc. Emphasize that reverse osmosis is to be used only when the water is saline. If turbid water is passed through Reverse osmosis then it will choke immediately.
8-11	<p>Slide No. 5: Types of Treatment (Sedimentation)</p> <p>Explain participants that there are basically two types of sedimentation (1) Physical (2) Chemical</p>
	<p>Slide No. 6: Physical Sedimentation</p> <p>Explain pax that storage and plain Sedimentation is when you store water and the turbidity settles without addition of any chemicals.</p>

Time Slot in Minutes	Session Plan
8-11	<p>Slide No. 7: Chemical Sedimentation</p> <p>Explain to the participants that coagulation & flocculation is when alum is added to water and it binds particles to form flocks and settle the turbidity faster.</p> <hr/> <p>Slide No. 8: Coagulation with Alum</p> <p>Ask participant to read the slide, Aluminum Sulphate (Alum) is the most effective chemical for coagulation & is easily available in the local market.</p> <p>Explain that water should be brought to less than 5 NTU for the chlorine to be effective or else chlorination will not be effective.</p>
12-15	<p>Slide No. 9: Disinfection</p> <p>Disinfection is an important process for killing pathogenic bacteria. Disinfection is adding chemical which is known to kill all microbiological impurities (Example Chlorine). The treatment system is simple, easy to maintain. It has proven effective to deal with harmful pathogens and produce safe quality of water. The advantage of chlorine is that it leaves a residue which is used to combat secondary contamination and the residue can be analysed and if found indicates zero pathogenic bacteria and virus in the water.</p>
16-18	<p>Slide No. 10: Ultrafiltration Membrane</p> <p>Ultrafiltration are membrane filters with pore size of 0.01 microns which are capable of removing the bacteria & the virus. Combination of ultrafiltration followed with chlorination is a powerful technology to generate quality assured water (as per Sphere Standards 2018). The technology is simple, can work on gravity, handpump, electric pump, solar and fuel driven pump.</p> <p>The kit has got slow dissolving chlorine tablets which release chlorine; the dosage for which can be precisely set. The photographs on the slide are of actual response in Kerala (Kerala Flood Response 2018)</p>
21-25	<p>Slide No. 12: The Need for Chlorination</p> <p>Explain the participants that Chlorine is known as a powerful disinfectant for last 100 years and more. The benefits of chlorine is it is very effective against major disease causing bacteria, is cheap, available easily, easy to use & the most important point that needs to be emphasized is that chlorine is the only disinfectant that leaves a residue which is easy to monitor & used to combat secondary contamination.</p>

Time Slot in Minutes	Session Plan
26-35	<p>Slide NO. 13, 14 & 15: Chlorination Overview</p> <p>Explain the participants that Chlorine is hazardous chemical & highly Volatile, hence utmost care like wearing gloves & mask has to be taken while handling it. Stress on the following point:</p> <ul style="list-style-type: none"> • Strong oxidising agent – must handle with care • Don't store close to fuel • Metal consumes chlorine – don't store in metal containers • Granulated chlorine produces gas which is denser than air <ul style="list-style-type: none"> ▫ Don't store where someone is sleeping ▫ Have vents under doors • Chlorine is corrosive – avoid skin contact, wear gloves, don't inhale fumes • Chlorination may need to be combined with another treatment process: <ul style="list-style-type: none"> ▫ Not good for turbid water or oxidising particulates ▫ Some pathogens can escape disinfection if hiding in dirt, therefore chlorination is not always a one-step treatment process ▫ Some organisms are resistant to chlorination (e.g. cysts, eggs) and therefore need higher dose and longer contact time • In order to disinfect, chlorine dose must be sufficient to: <ul style="list-style-type: none"> ▫ Reacts with all contaminants (including organic and inorganic material) ▫ Leave an excess amount of chlorine – because: <ul style="list-style-type: none"> ▫ We need to know that everything else is oxidised (i.e. dose OK) ▫ We want excess chlorine (“residual chlorine”) which remains in the water to give residual protection after initial treatment ▫ The “chlorine demand” of the water is therefore difference between amount of chlorine added and amount of residual left ▫ Free residual normally be between 0.2 – 0.5 mg/l
36-37	<p>Slide No. 16: What if someone swallows Chlorine Tablet?</p> <p>Ask the pax what if someone swallows Chlorine Tablet? Listen to them and finally explain the possible remedies. Note that this remedy is only for chlorine tablet alone. This is a recommendation by the manufacturer of chlorine tablet.</p>
38-40	<p>Slide No. 17: Product types and Strengths</p> <p>Explain to the participants that Chlorine has various donor agents, most commonly used is Chlorinated lime (Bleaching Powder) which has a strength of 30-33%. Chlorine is not a free agent and has to be attached to donor like lime in case of bleaching powder.</p> <p>Emphasize that for household treatment Sodium Dichloroisocyanurate (Nadcc) is the best chlorine donor agent as it's most stable & can be transported by Air!</p>

Time Slot in Minutes	Session Plan
41-42	<p>Slide No. 18: Facts on Chlorination</p> <p>Explain to the participants that Chlorine will lose strength rapidly if left open, hence always ensure airtight packaging for storage both liquid & solid.</p>
43-47	<p>Slide No.19: Chlorine Dosage for other application</p> <p>Emphasize on well water where the intention is to disinfect open well sources. The WHO guidelines says 50-100 mg/ liter. Super Chlorination for treating the water in the well is done at 5 mg/ liter.</p> <p>wells, ex personal protective gears ect, also there could be a chance of the well collapsing, hence one has to be cautious while entering the well If Super chlorinated then there will be chlorine gas which is toxic if inhaled</p>
48-50	<p>Slide No. 20: Dosing Methods – Bucket Chlorination</p> <p>There is a process for doing bucket chlorination, the following points should be considered for bucket chlorination –</p> <ul style="list-style-type: none"> • Individual containers should be dosed • Different sizes of water containers need different doses • Requires recruitment, training and close support supervision of “chlorinators” • Could be expensive if there are many water points to cover • Short term solution only • Effective and fast method if properly implemented <p>Consolidate by informing that bucket chlorination is an alternative if Nadcc Tablets are not available.</p>
51-53	<p>Slide No. 21: Monitoring of Chlorine</p> <p>Explain the participants that Monitoring & evaluation is a important part of chlorination which enables one to identify gaps like strength of available chlorine, if the chlorine demand has varied etc.</p> <p>Monitoring also ensures that water quality is maintained till the last point of distribution (example testing for residue chlorine for 0.2-0.5 mg /l, at the end point will ensure adequate chlorination & vice versa!)</p>
54-56	<p>Slide No. 22: Points for Consideration on Chlorine</p> <p>Explain the participants that If chlorination is not a daily practice then people may not like the taste of chlorine, hence strong hygiene promotion is needed to highlight the importance of chlorination.</p> <p>H2S vial is a very powerful tool to signify the importance of chlorination.</p>

Time Slot in Minutes	Session Plan
57-60	<p>Slide No. 23: Other disinfection Methods</p> <p>Emphasize that Chlorine is the only chemical which leaves a residue which is important for Monitoring & Evaluation and to combat secondary contamination especially in emergencies as the entire environment is polluted. However, there are other disinfection methods available which are –</p> <ul style="list-style-type: none"> • Ozonation • Boiling • Iodine • Ultraviolet rays <p>These disinfection methods do not leave residue effect which only chlorine can do!</p>
61-61	<p>Slide No. 24: Session Objectives</p> <p>Ask participants to read the objectives.</p>
62-65	<p>Slide No. 25: Introduction to Make 1% Chlorine Mother Solution</p> <p>Different chlorine donor agents have different chlorine strengths, hence to equate the amount of chlorine a 1% mother solution is made which has 10 grams of available chlorine in 1 liter of water.</p> <p>It should be noted that chlorine should be</p> <ul style="list-style-type: none"> o Kept in non-transparent container out of sunlight o Airtight container o 1% solution kept max 2 weeks o Store safely – emits dense gas • There are Water Quality Standards to measure different quality parameters during emergencies.(NTU Less than 5, EColi 0/100ml, Residue Chlorine 0.2-0.5 mg/ l) • The requirement of chlorine will be different according to the need of disinfection. • Chlorine is the only chemical that leaves a residue on water which is used to combat the secondary contamination & for Monitoring and evaluation • With Presence of residue chlorine water can be declared safe for drinking
66-85	<p>Slide No. 26: Making 1% Chlorine Mother Solution</p> <p>The information provide should be followed with Practical.</p> <p>Take One Match Box/ Table spoon approx 15 gms, hence for making a 1% mother solution use 2 Tablespoons/ Matchbox, Matchbox may have different sizes, hence actually weigh by filling up with powder.</p> <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan
66-85	<p>Methodology for practical: take 1 liter of water in jar, Add 2 Tablespoons/ Matchbox of bleaching powder to Water, stir for 60-90 Seconds, allow the Lime to settle, Once the lime is settled, filter lime with cotton cloth, Once all solution is filtered squeeze the cotton cloth so that all residue of chlorine can be extracted.</p> <p>Now your 1% Chlorine solution is ready. 1% solution has = 10 g active chlorine / litre 10,000 mg / litre 10,000 mg / 1,000 ml 10 mg / ml So each 1 ml of 1% solution has 10 mg of active chlorine</p>
86-95	<p>Slide No. 27: Jar Test Practical</p> <p>Jar test is normally done to identify the correct dosage of chlorine. Jar Test is done by taking 10 liters of sample water in buckets & injecting different dosage of chlorine. 1ml of Mother solution has 10 mg of available chlorine. Hence to dose 2mg in 10 liters of sample water = 10 liters x 2mg/ l = 20 mg, hence 2 ml of 1% Chlorine Mother Solution. The correct dosage of chlorine would be the one which will give us residue of 0.2-0.5 mg/l</p>
96-100	<p>Slide No. 28: Batch Chlorination Calculations</p> <p>Once the accurate dosage is known, multiply the same with the volume of water that you want to treat. For example if the dosage of 2.5 mg/ liter is the accurate dose that leaves 0.2-0.5 mg/l, & volume of water to be treated is 1000 liters then 1000X 2.5 = 2500 mg, 1 ml of mother solution has 10 mg of available chlorine, hence 250 ml of mother solution in 1000 liters of water</p>
101-102	<p>Slide No. 29: If No Residue Chlorine</p> <p>If chlorine is not stored properly then it starts losing its strength, this is the point where the dosage though done volumetrically correct may not be sufficient & hence will not leave residue chlorine, kindly change the powder. If the DPD tablets are black then they have expired. Identify gaps and rectify.</p>
103-110	<p>Slide No. 30: Calculation and Preparation of 1% Alum Mother Solution</p> <p>1 Match Box/ Table spoon approx 15 gms, hence for making a 1% mother solution use 1 Table spoon/ 1 Matchbox. Matchbox may have different sizes, hence actually weigh by filling up with powder.</p>

Time Slot in Minutes	Session Plan
111-116	<p>Slide No. 31: Alum Jar Test</p> <p>Jar test is normally done to identify the correct dosage of Alum Take 3 Jars of 1 liter each. Add some dirt to water to make water turbid. Dose 3 jars with different mg/ liter of eg 40/60/80 mg/liter & Stir for 15 seconds. The correct dosage of Alum would be the one which will give best coagulation and settle the fastest. 30 minutes should be given for alum to react with turbidity.</p>
117-118	<p>Slide No. 32: Batch Alum Calculations</p> <p>Once the accurate dosage is known, multiply the same with the volume of water that you want to treat. For example if the dosage of 80 mg/ liter is the accurate dose that forms the best flocks, & volume of water to be treated is 1000 liters then $1000 \times 80 = 80000\text{mg}$, 1 ml of mother solution has 10 mg of available chlorine, hence 8000 ml (8 Liters) of mother solution in 1000 liters of water</p>
119-120	<p>Slide No. 33 Consolidate the session with key learning points</p>

LIST OF EQUIPMENTS

Sr. No	Description	Quantity
1	15 Liter Buckets	3 No
2	1 Liter Jars	5 No
3	Table Spoon	2 No
4	Match Box	2 No
5	Cotton Cloth	1 Meter X 1 Meter
6	Stirrer	1 No
7	Injection Syringe 5/6 ml	3 No
8	Hand Gloves	2 sets
9	Mask	2 Sets
10	Alum Powder	1 kg
11	Bleaching Powder	1 Kg
12	Mud	100 gms

■ Session 2.2 Water Treatment: Well Cleaning and Disinfection



Duration of the Session: 90 minutes

Background of the topic

This session is the culmination of all the theoretical and practical sessions that precede it. Since wells are the primary source of water for households in Kerala this session is very important for field application of the learnings so far. The session covers how to assess, dewater, disinfect and maintain a well.

Key Learning Objectives

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

- Explain how to safely conduct well cleaning in a scientific and structured manner to provide a safe source of drinking water
 - Explain the importance of correct operation and maintenance measures
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Key Learning Points

- Well cleaning is a risky activity. Risks involved in well cleaning should be mitigated by preparation and safety measures.
 - Examination of the surroundings of the well and the well itself in a structured manner is required for appropriate well for cleaning and disinfection.
 - The steps of well cleaning need to be followed in sequential order.
 - Proper maintenance of wells is important to maintain water quality after cleaning. In situations where continuous contamination due to septic waste cannot be avoided, pot chlorination is recommended.
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Facilitators Guide

- This session is to be conducted near a dug well. It is preferred that the participants are taken to the well within the premises. (5 min walking distance from the training room is ideal)
 - Since the session is to be conducted near the well, the physical safety of the participants must be ensured.
 - After a quick visit near the well, the session can be conducted in close proximity of the well to avoid any mishap during the session.
 - Preparation should be done near the well in advance to conduct the session to avoid any delays.
 - Preparation shall include material from well chlorination session.
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Time Slot in Minutes	Session Plan
0-5	<ul style="list-style-type: none"> • Begin the session with a quick overview of session objectives. • Inform the participants that everyone will be going to the well. Inform the participants that complete session will take 60-90 min. It will be a mix of theoretical and practical. • Inform that all the participants where they will assemble after the session for a debriefing on key learning points. Try to take them back to the training hall for debriefing. • Depart to the well. (5 min)
6-10	Travel time to the well.
11-20	<p>Context setting</p> <ul style="list-style-type: none"> • State the reason what are the possibilities of well contamination and what is the need of well cleaning. <p>Risks of well cleaning and safety precautions.</p> <ul style="list-style-type: none"> • Start the session by asking possible risk of well cleaning from the participants. • Inform the participants by adding other risks to ensure the following risks are clearly laid out. <ul style="list-style-type: none"> ▫ People falling into the well from the surface if the well does not have a headwall or other protection. ▫ Faulty equipment such as ladders, ropes, tripods, hooks, buckets can lead to an accident. ▫ Incoming water filling up the well and a person inside not being able to exit the well quickly enough. ▫ Items falling into the well from the surface or collapse of the well walls if not lined or protected. ▫ Suffocation from inhaling chlorine gases when cleaning the walls of the well. Wherever possible the walls of the well should be cleaned from the surface using a long-handled brush. ▫ Poisonous gases, particularly carbon monoxide, can enter the well from diesel or petrol engines powering pumps. ▫ Improper handling of bleaching powder. • Ask the participants if these are the risk then what precaution should be taken. • Clearly lay out safety precautions and good practices be taken before doing well cleaning. <ul style="list-style-type: none"> ▫ Under no circumstances must a diesel or petrol powered pump or its associated engine be lowered into a well and their gases must be diverted away from the well even when they at ground level. (explanation - This is essential as carbon monoxide is heavier than air and can sink to the lowest level. This could cause asphyxiation and death to the workers inside the well. Many people have died inside wells from carbon monoxide poisoning.) <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan
11-20	<ul style="list-style-type: none"> ▫ People involved in well repair, cleaning and disinfection should be fully trained on the risks and good health and safety practice. (Health and safety of the cleaners should be high on priority.) ▫ Safety practices should include - Safety Harness, helmets, safety boots etc for well cleaning. ▫ Use a well tripod or other locally developed structure to facilitate safe entry to and exit from the well for the people removing debris or repairing inside the well. This is particularly useful for deeper wells. ▫ The working area should be fenced, a kerb constructed (If there is no headwall), and at least 2m around the well should be kept clear of the objects which could fall in. ▫ Keep a reliable person at ground level during all times when people are in the well. ▫ Keep the well ventilated ▫ No smoking, matches, or naked lights except for use to test the air by lowering a lighted candle or lamp into the well prior to entry. If the flame extinguishes then do not enter the well. <p>Start the next topic by reinforcing the importance of safety in well cleaning.</p>

21-30	<p>Steps for cleaning the well</p> <p>Step 1 - Produce an inventory of wells and select the well for rehabilitation</p> <ul style="list-style-type: none"> • Meet with community leaders and ask them which wells serve each section of the community. • Select the most commonly used wells as a source for drinking water that provided abundant supply. • Check there are no obvious sources of contamination from nearby latrines, ponds or surface water. Also map livestock areas (pig pens, cattle sheds, chicken coops) as potential sources of contamination by animal waste. • Guiding distances are as follows. (These are the guiding distance from international recommendations , however might not be relevant in case of Kerala)
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Facility, Location	Minimum distance from or Building	Minimum distance (in meters)
	Communal dumping site	100
	Store for pesticides fertilisers or fuels	100
	Cemetery	50
	Abattoir	50
	Dwelling house	10
	Pit latrine	30
	Animal pen	30
	River or lake	20
	Laundry or washing slab	20
	Road with open drainage	20

Continued...

Time Slot in Minutes	Session Plan
21-30	<ul style="list-style-type: none"> • Observe and assess the type and extent of damage to the top of the well and the lining. • Ask the community about the original depth of the well. • Identify the well that needs to be repaired based on the information received.
31-40	<p>Step 2: Collect data for pre-cleaning, during well cleaning and post well cleaning.</p> <p>Pre-cleaning</p> <ul style="list-style-type: none"> • Date of cleaning • GPS location if possible, otherwise address • Establish and mark the reference measuring point (rmp) which will be common for all the measurements. • Height of the mp from ground-level (in metre) • Internal diameter of the well. (in metre) • Depth of water level from the base point. (in metre) • Depth of the well shaft. (in metre) • Calculate Volume of the water • Apron present (Yes/no) • Diameter of Apron (in metre) • Condition of Apron (descriptive) • Condition of drainage. • Water stagnation near well. <p>Water Quality</p> <ul style="list-style-type: none"> ▫ Physical - Odour, Colour , Taste ▫ pH ▫ TDS (ppm) ▫ Turbidity (NTU) ▫ Chlorine demand (mg/l)* ▫ Send sample for bacteriological contamination test. <ul style="list-style-type: none"> • Record the damages which are seen from outside the well. • Estimate the resources required for cleaning (Rupees) <p>Dewatering</p> <ul style="list-style-type: none"> • Pump HP • Type of Pump (Diesel/ Electrical) • Time taken for dewatering <p>After dewatering</p> <ul style="list-style-type: none"> • Full depth of well from mp (in metre) • Bottom diameter of the well. (in metre) • Observation on debris (Garbage/ silt / Debris from the collapse of well walls) • Observe and note other damage for on the well lining (Example - Shifting of ring vertically or horizontally, indications of any major cracks in the wall etc.) <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan
31-40	<p>After desludging</p> <ul style="list-style-type: none"> • Full depth of the well from mp (in metre) • Bottom diameter of the well (in metre) <p>After Recharge (24 hours after the well cleaning)</p> <ul style="list-style-type: none"> • Depth of water level from mp (in metre) • Volume of the water <p>Water Quality</p> <ul style="list-style-type: none"> ▫ Physical - Odour, Colour, Taste ▫ pH ▫ TDS (ppm) ▫ Turbidity (NTU) ▫ Chlorine demand (mg/l) ▫ Send sample for bacteriological contamination test. <p>After Chlorination</p> <p>Water Quality</p> <ul style="list-style-type: none"> ▫ Physical - Odour, Colour ▫ pH ▫ TDS (ppm) ▫ Turbidity (NTU) ▫ Chlorine residue (mg/l) <p>Make an account of total cost spent.</p>
41-50	<p>Step 3 Cleaning of well lining</p> <p>The amount of rehabilitation and cleaning required will depend on the amount of damage caused by the disaster. Typically it will include the following steps:</p> <ul style="list-style-type: none"> • Scrubbing of algae and removal of plants from well lining. • Repair or relining of the well walls to reduce subsurface contamination. • Cleaning of the well lining using a wire brush and chlorinated water. • Place a 150mm layer of gravel in the base of the well to protect it from disturbance • Construct a drainage apron and parapet around the well to prevent surface water, insects and rodents from entering the well. • White wash the outside of the well and the inside to a depth of about 1 m above the high water level. • Removal of polluted water and debris from the well using either buckets or pumps. Special care must be taken when using a pump to remove water from wells contaminated with seawater. <p>* Turbidity and pH check of water.</p> <p>Following cleaning and repair, allow the water level in the well to return to its normal level. (approx 24 hours) Measure the turbidity and pH levels to check whether chlorination will be effective</p> <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan
41-50	<ul style="list-style-type: none"> • Never chlorinate turbid water because suspended particles can protect micro-organisms. • If the turbidity of the well water is greater than 20NTU after the cleaning stage. Then well cleaning was not successful. • Remove all water in the well once again and scrub the well lining with a strong concentration of bleach in water
51-65	<p>Step 4 : Disinfection of the well</p> <p>After the well lining is cleaned and repaired the whole structure should be carefully disinfected. Disinfection is needed to kill any possible harmful bacteria that could be transferred from any external sources or previous contamination in the aquifer.</p>

The well can be disinfected by adding enough chlorine to the well water to produce a strong chlorine solution. This solution can be then used to rinse off the rest of the well and so disinfect it.

Steps for well disinfection

Determine the volume of water in the well.

Note: The volume of the well in a circular well can be easily computed by measuring the depth of water and diameter of the well.

Volume (cubic meter) = (water depth(meter))(radius (meter))² (3.1416)

- From the table shared below determine the amount of bleaching powder that need to be added to the well to produce strong chlorine solution.

Table 1 :

Volume of Water (cubic meter)	Weight of bleaching powder (gram)
1	100
1.2	120
1.5	150
2	200
2.5	250
3	300
4	400
5	500
6	600
7	700
8	800
9	900
10	1000 (1 kg)
15	1500 (1.5 kg)

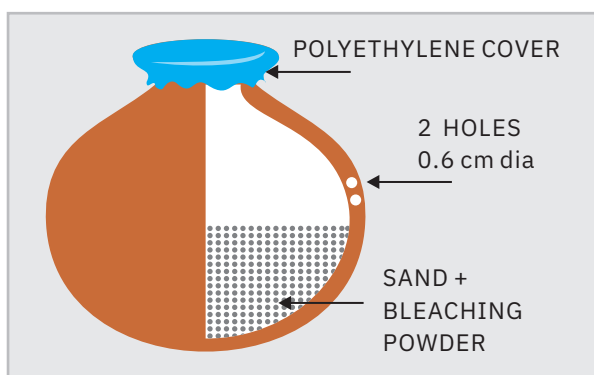
Continued...

Time Slot in Minutes	Session Plan
51-65	<p>Very important: This will produce a chlorine solution of 30mg/l (ppm). This water MUST NOT be consumed by any human or animal. This solution should be handled carefully.</p> <ul style="list-style-type: none"> • Dissolve the required amount of the chemical in a bucket of water before adding to the well. Add no more than 100 g of bleaching powder to each bucket of water. • Pour the solution into the well. It is the best to agitate the water to insure that chlorine is evenly mixed. • The strong chlorine solution should be left in the well for at least 12 hours and preferably for 24. It must be stressed that this strong chlorine solution is not suitable for humans or animals. <p>Dewatering</p> <ul style="list-style-type: none"> • After 12-24 hours contact time, the residue chlorine in the water must be checked. • If the residual chlorine is above 0.7 mg/l (ppm), the chlorinated water should be pumped out from the well until the residual level is below 0.7mg/ l. • Chose a disposal place for the chlorinated water where it will have little contact with plants and animal. <p><i>NOTE: The recommended chlorine residual is 0.5 mg per liter. A higher residual will cause an obvious chlorine taste in the water. Above 3.0 mg per liter chlorine concentration can cause diarrhea</i></p>
66-75	<p>Maintenance of well water quality.</p> <ul style="list-style-type: none"> • Start the session by informing that the safe water can only be achieved only through regular maintenance of the well and through regular disinfection. <p>Regular Maintenance</p> <ul style="list-style-type: none"> • Any nearby source of contamination such as open drains, septic tank, leach pit should be cleaned regularly to avoid contamination to leach into the well. • Any kind of water stagnation near the well should be diverted. • Any kind of chemical contamination such as the use of pesticides, insecticides near the cleaned well should be strongly discouraged. <p>Disinfection</p> <ul style="list-style-type: none"> • Residual chlorine should be monitored every 15 days. In case the residual chlorine is absent then chlorination should be done after calculating chlorine demand of water. • Regular disinfection can also be done by a pot-chlorination technique** <p>Recharge of the well</p> <ul style="list-style-type: none"> • Recharging the shallow well with rainwater should be promoted by passing water through a sand + charcoal filter. <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan
66-75	<ul style="list-style-type: none"> Costing of cleaning the well - The approximate cost of cleaning the well is Rs 4,500 per well which includes rental of equipment and manpower.
76-85	<ul style="list-style-type: none"> Take the debriefing of the complete session and emphasise on overall steps involved in well cleaning.
86-90	<ul style="list-style-type: none"> Travel back to the training room

**** Pot chlorination**

Pot chlorination is a method of continuous disinfection of well by using a porous earthen pot which is filled with a mixture consisting of bleaching powder and immersed in water. Various types of pot chlorination methods are

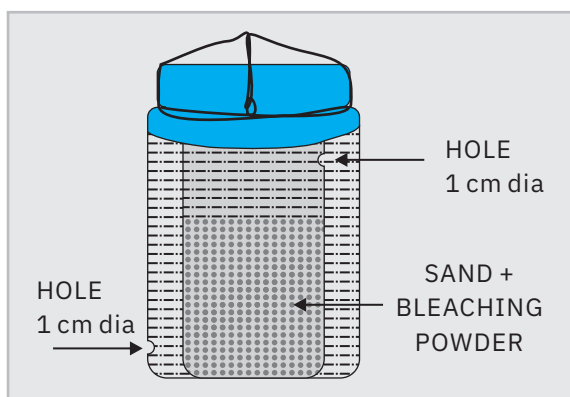
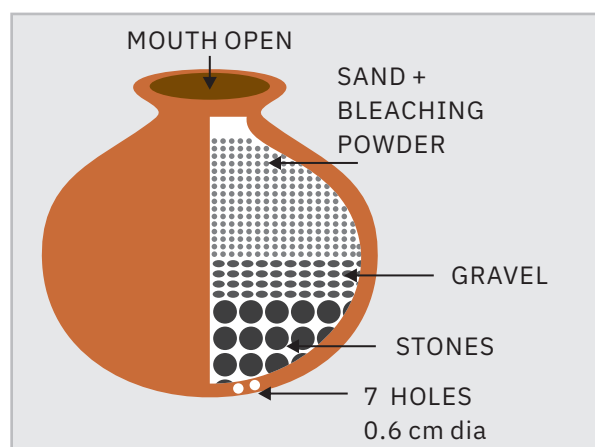


Single Pot with holes in the middle

- One unit will chlorinate wells of 900 to 13000 litres contents and having a withdrawal rate of 900 to 1300 liters/day.
- One Unit is filled with 1.5 kg of bleaching powder mixed with 3 kg of coarse sand.
- It is covered and suspended 1 m below the water level
- It needs to be replenished every week.

Single Pot with holes at the bottom

- One unit will chlorinate wells of 9000 to 13000 litres contents and having a withdrawal rate of 900 to 1300 litres/day.
- Unit is filled with 1.5 kg of bleaching powder mixed with 3 kg of coarse sand as before but with the addition of 75 gram of sodium hexametaphosphate.
- It is then packed with gravel upto the top and suspended, a meter below water level.
- Needs replenishing of chemicals every 2 weeks.



Double pot with holes at each pot

- One unit will chlorinate wells of 3600 to 4500 litre contents and having a withdrawal rate of 3600 to 4500 liter s per day
- The inner pot is filled with 1 kg of bleaching powder with 2 kg of coarse sand (2 mm and above) and placed inside the outer pot.
- The mouth is loosely covered and the unit lowered 1 m below the water level.
- Needs replenishing every 3 weeks . Ideal for individual household wells.

List of Training Material

- Identify and visit the well in advance.
- Measuring tape
- Nylon rope (at least 10 m or more depending on how deep the wells in the area are)
- Bucket for lifting water from well (15 litre)
- Mother solution from the chlorination session
- Pot chlorine (keep a pot prepared earlier).
- 3 no 1litre Jar
- Turbidity testing kit
- TDS +EC+ Temperature measuring device
- pH measuring kit
- Chlorine test kit.
- Checklist format for data recording.
- Handouts with pictures of different stages of cleaning

List of Reference Material

1. OXFAM Technical Briefs – Repairing, cleaning and disinfecting hand dug wells. (VERY IMPORTANT)
2. WHO TECHNICAL NOTES ON DRINKING-WATER, SANITATION AND HYGIENE IN EMERGENCIES. - Cleaning and Disinfecting wells. (VERY IMPORTANT)
3. DISINFECTION TECHNIQUES FOR SMALL COMMUNITY WATER SUPPLIES- CIPHERI- India (PAGE NO. 16 TO 26) AND (PAGE NO. 50- 53) FOR POT CHLORINATION.
4. <http://wgbis.ces.iisc.ernet.in/energy/water/paper/drinkingwater/wellsconstruction/appendix8.html>

■ Session 2.3 Adult Learning Principles



Duration of the Session: 60 minutes

Background of the topic

As participants of this training are going to train other people themselves it is important that they understand the basic adult learning principles which is the foundation of all successful training delivery. Participants need to understand that training is different from teaching and adults learn very differently from children.

Key Learning Objectives

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

- Explain importance of applying adult learning theories and principles in the process of training design and delivery.
 - List four adult learning styles which are demonstrated by participants and trainers during learning process.
 - Describe adult learning principles which govern training and learning process.
 - Describe the receiving, processing and using stages of learning process.
-

Key Learning Points

- Adults demonstrate combination of four learning styles (Activist, Pragmatist, Reflector and Theorist) in any learning process.
 - Adult learning process comprises of three stages of Receiving, Processing and Using. Every training process need to be designed to help participants to go through all the three stages.
 - Adult learning principles provide significance guidance in planning and delivering training process.
-

List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Time Slot in Minutes	Session Plan
0-5	Welcome participants to the session by explaining the objectives of the session as given on the slide and request participants to freely express their thoughts for discussion and clarification.
6-10	Ask participants to give their interpretations on the animated visual shown on the slide. Based on the multiple views given by the participants and discussed, explain to them that adults respond differently to learning processes, which is why it is important to understand adult learning principles and processes for a good trainer.
11-15	<p>Then ask participants on how children and adults learn? Is there any difference in approach? Ask participants to brainstorm and write the response on a flip chart. Thank the participants and finally explain the differences. While explaining the differences relate it to the previous slide when you showed a lady and asked them to interpret. Finally conclude by saying the following –</p> <ol style="list-style-type: none"> 1. Adults have greater knowledge and wider experience than younger learners 2. Adults enter learning situations with their own goals, motivations and needs <ul style="list-style-type: none"> • Adults need to know why they are learning something • Adults are motivated when learning contributes to their quality of life, and self esteem 3. Adults are concerned with immediate problems <ul style="list-style-type: none"> • Adults prefer training programmes that deal with a single topic and focus on applying it to problems • Adults learn better by doing something rather than just reading or discussing • Adults like clear “hands-on” instructions 4. Adults need to integrate new ideas with "old" ones if they are going to keep and use the new information <ul style="list-style-type: none"> • Adults like to be able to evaluate, challenge and question
16-20	<p>Ask participants the question, “what do we mean by training?”, and list participants’ responses on the white board.</p> <p>Consolidate the discussion by emphasizing on the fact that every training aims at bringing about some change at the level of practice or performance, with reference to knowledge, skills and attitudes.</p>
21-35	<p>Match Stick Quiz and Adult Learning Styles:</p> <p>Request Participants’ groups to participate in the match stick quiz activity and to observe themselves how do they participate. Give them five minutes for reorganize the match sticks.</p> <p>While they are organising the stick, observe how participants are responding, how the group is learning and how individuals in the group are contributing to the learning.</p> <p>Jot down the learning styles and after the exercise, explain to the participants how their learning styles are.</p>

Time Slot in Minutes	Session Plan
36-45	<p>Learning Styles: Analyse participants’ reaction to the four learning styles of Activist, Pragmatists, Reflectors and Theorists. Discuss in detail the features of each learning styles and learners. Consolidate the activity emphasizing key learning point that adults demonstrate combination of four learning styles (Activist, Pragmatist, Reflector and Theorist) and in any learning process and the trainer need to refer to these learning styles while planning and delivering training sessions.</p>
46-50	<p>Adult Learning Principles: With the help of power point slide and using examples explain Adult Learning Principles as follows:</p> <ul style="list-style-type: none"> • Adults need to know why they are learning something, • Adults learn best when problem or task based learning process • Learning need to relevant with participants. <p>Sum up the discussion by asking participants to be aware of the three adult learning principles at all the stages of a training programme.</p>
51-55	<p>Stages of Learning Process: With the help of the power point slide explain to participants the key learning point that Receiving, Processing and Using are the three stages of adult learning.</p> <p>While designing any of the training processes trainers need to look into how he/she is taking participants from all stages of learning. It is also important to acknowledge that the phase of receiving partially starts in real life environment, the stage of processing is in the training environment, and the stage of using although partially starts in training environment, has significant relevance for real life environment as well.</p> <p>Receiving: Here participants receive elements of learning in different forms e.g. information, knowledge, skills, attitudes, experiences etc. It is essential that the facilitator identifies appropriate methods and tools which will help participants receive the content effectively.</p> <p>Processing: Here participants are reflecting, internalising and analyzing the elements of learning. This is an abstract process which happens subconsciously. It is essential that the facilitator provides enough time, an appropriate environment, and a suitable method for the participants to process content.</p> <p>Using: Here participants arrive at an individual and a collective clarity of “What needs to be done?” and “how am I going to take my responsibility?”. The facilitator needs to help participants go through this decision making process using appropriate methods.</p>
56-60	<p>Consolidate the learnings from the session by discussing the key learning points, and clarify participants’ queries, if any.</p>

■ Session 2.4 Training Design and Developing Session Plans



Duration of the Session: 45 minutes

Background of the topic

To be an effective trainer, participants need to understand the logical flow of how each session is structured. Central to this understanding are Key learning points and objectives which are the crux of each session.

Key Learning Objectives

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

1. List the five stages of the training cycle
 2. Explain the Key learning objectives
 3. Explain the Key Learning Points
 4. Design a 'Session Plan'
-

Key Learning Points

- Training cycle involves, Training Needs Assessment (TNA)/ Learning Needs Assessment (LNA), training design, training logistics, training delivery, evaluation and follow up
 - A session plan should have concise key learning objectives and key learning plans
 - The key learning objectives should be SMART
 - The key learning point need to follow: Must know, should know and could know”.
-

List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-5	<p>Quickly welcome participants to the session and explain the objectives of the session and request participants to freely express their thoughts for discussion and clarification.</p>
6-10	<p>Quickly brain storm on –</p> <p>“What do we mean by training?”</p> <p>Listen to the participants’ responses and list them on the white board. Consolidate the discussion emphasizing that all training aims at some change at the level of practice or performance with reference to knowledge, skills and attitudes.</p> <p><i>‘The organized procedure by which people learn knowledge and/or skill for a definite purpose’ – Dale S. Beach</i></p> <p>Training refers to the teaching and learning activities carried on for the primary purpose of helping members of an organization acquire and apply the knowledge, skills, abilities, and attitudes needed by a particular job and organization.</p> <p><i>“Learning is a continuous process in which people interact with their environment to acquire new knowledge, skills and attitudes. The training creates an environment which encourages this process.”</i></p>
11-15	<p>Training Cycle:</p> <p>List the five stages of the training cycle and explain the participants that it is a process and each steps are sequential. Finally all the steps are essential to make training successful. Though Evaluation is the last stage of the training cycle, however evaluation happens throughout.</p>
16-20	<p>Objective Writing:</p> <p>Once the training needs assessment is done, the next step is to design/ frame the training objectives. Training objectives tell us what the participants will be able to do by the end of training session or course. Having training objectives helps us to plan; we know what we must include in the training session and what we can afford to leave out. The training objectives should be SMART!</p>
21-25	<p>SMART Objectives (KLOs – Key Learning Objectives):</p> <p>Explain each aspects of SMART. When writing a SMART objective, be careful about the words you use.</p> <p>Every time when we write a training or session objectives begin like –</p> <p>By the end of the session, participants will be able to –</p> <p style="text-align: right;"><i>Continued...</i></p>

Time Slot in Minutes	Session Plan																				
21-25	<p>Some words and phrases are vague, difficult to measure or open to interpretation. Therefore use words such as:</p> <table border="0" data-bbox="524 358 1398 641"> <tr> <td data-bbox="524 358 889 641"> <p>Use of words</p> <ul style="list-style-type: none"> • Explain • Describe • List • Apply • Analyse • Demonstrate • Practice </td> <td data-bbox="889 358 1398 641"> <p>Do not use words</p> <ul style="list-style-type: none"> • Understand • Know • Think • These words cannot be measured. </td> </tr> </table> <p>Finally, your objective should be KISS.....Keep It So Simple</p>	<p>Use of words</p> <ul style="list-style-type: none"> • Explain • Describe • List • Apply • Analyse • Demonstrate • Practice 	<p>Do not use words</p> <ul style="list-style-type: none"> • Understand • Know • Think • These words cannot be measured. 																		
<p>Use of words</p> <ul style="list-style-type: none"> • Explain • Describe • List • Apply • Analyse • Demonstrate • Practice 	<p>Do not use words</p> <ul style="list-style-type: none"> • Understand • Know • Think • These words cannot be measured. 																				
26-30	<p>Key Learning Points (KLPs): Key learning points describe what you want people to remember from the training session. It is a take away message. Normally adult learners would forget what they have learnt over a period of time, however it is expected that the key learning points should be remembered and practiced by participants once they are back to routine work.</p>																				
31-35	<p>Training Methods: Training Methods are based on the learning styles of the participants. There should a need to select a mix of training methods and aids while delivering the training/ sessions. Equal importance should be given on learning environment; the space where we conduct the training, seating arrangements, food/ accommodation, training materials, equipment and other logistical needs.</p>																				
36-40	<p>Learning Environment: Explain participants in detail on how the learning environment should be? - Space, comfort (warm, cold), noise, training venue and ambience, food and accommodation, training materials and equipment and logistics.</p> <p>Some of the key considerations –</p> <table border="0" data-bbox="488 1544 1438 1941"> <tr> <td>Audience</td> <td>who will you be training? Find out as much as you can.</td> </tr> <tr> <td>Location</td> <td>where would the training be based?</td> </tr> <tr> <td>Timing</td> <td>when would be the best time to run the training?</td> </tr> <tr> <td>Venue</td> <td>what will you need?</td> </tr> <tr> <td>Content</td> <td>what will you cover to meet the trainees’ needs?</td> </tr> <tr> <td>Duration</td> <td>how much time is needed? Is this available?</td> </tr> <tr> <td>Approach</td> <td>what training methodologies will you use?</td> </tr> <tr> <td>Trainers</td> <td>who will do the training?</td> </tr> <tr> <td>Evaluation</td> <td>how will you measure success?</td> </tr> <tr> <td>Logistics</td> <td>Materials, Resources, Visual aids, Hand-outs, Equipment, Budget, Catering, Accommodation</td> </tr> </table>	Audience	who will you be training? Find out as much as you can.	Location	where would the training be based?	Timing	when would be the best time to run the training?	Venue	what will you need?	Content	what will you cover to meet the trainees’ needs?	Duration	how much time is needed? Is this available?	Approach	what training methodologies will you use?	Trainers	who will do the training?	Evaluation	how will you measure success?	Logistics	Materials, Resources, Visual aids, Hand-outs, Equipment, Budget, Catering, Accommodation
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Time Slot in Minutes	Session Plan
41-45	<p>Learning Space/ Sitting Arrangements: Which of the sitting arrangement is most appropriate? Allow participants to reflect and come up with discussion. After participants make their points please explain the strengths and limitations of each of the sitting arrangement.</p> <p>First type of sitting arrangement: Space efficient, Very formal, Doesn't encourage discussion</p> <p>Second type of sitting arrangement: Informal, Encourages collaboration, Not space efficient</p> <p>Third type of sitting arrangement: Informal, Encourages collaboration, Trainer becomes the centre of attention.</p>
41-45	<p>Developing Session Plan: There are seven steps while designing a session plan, which are as follows –</p> <p>Step 1: Understand and internalise the session objectives. Step 2: Understand and internalise the key learning points. Step 3: Understand methodology for the session. Step 4: Organise media material and presentation. Step 5: Make a Session Delivery Plan. Step 6: Reading. Step 7: Practice. Briefly give an outline of each of the step.</p>
46-50	<p>Consolidate the learnings from the session by discussing the key learning points, and clarify participants' queries, if any.</p>

■ Session 2.5 Training Methods, Tools and Aid



Duration of the Session: 45 minutes

Background of the topic

To keep participants engaged and to strengthen the learning process, a variety of training methods, tools and aids need to be deployed in different sessions depending on the context. Here participants need to be introduced to the different methods and how and where to use them to enrich the training experience.

Key Learning Objectives

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

- Explain Dale's Cone of understanding and remembering in the learning process.
 - List the Training methods, tools and aid
 - Explain the training methods, tools and aid
 - List the do's and don'ts of each method
-

Key Learning Points

- Receiving, Processing and Using are the three stages of learning, which determine the selection of the training method for a particular session.
 - The facilitator needs to refer to Dale's cone while selection of the method with special reference to the processes of listening, watching, speaking and doing.
 - With special reference to water quality testing and treatment training topics the facilitator needs to select methods which help participants to do.
 - While planning for the training programme the trainer needs to identify water quality testing and treatment specific training aids.
 - Choose activities that are appropriate to the topic, group and time available
 - Blend techniques to stimulate and aid learning
-

List of Training Material

- Flip chart papers
- Markers
- White Board
- Laptop
- LCD projector
- Screen

References and Further Reading

- Reference Note book

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-5	Welcome participants to the session. Quickly explain the objectives of the session as given on the slide and request participants to freely express their thoughts for discussion and clarification.
6-10	<p>Dale's Cone</p> <ul style="list-style-type: none"> • Explain the pyramid one by one. Key learning point to be emphasized is (Points need to be explained as per the image appears from the animation.) • The trainer need to be aware about what he or she is facilitating in terms of See, Listen, Speak, Draw and Do. • The session methods need to be based more on the base of the pyramid. <p>Key learning points: Trainers need to be aware of their methods, in terms of: See, Listen, Speak and Do. Emphasis should be put on the base of the pyramid.</p> <p>Explain the significance of combination of methods helping participants to listen, watch, speak, draw and do.</p>
16-35	<p>Slide No. 4 to 19: Training Methods</p> <p>Explain each of the methods and also explain in detail the do's and dont's of each method.</p>
36-40	<p>Selecting the appropriate methods & training aids</p> <p>This is animated slide and explain it step by step on the process of selecting appropriate methods and training aids. Trainer also can add examples from his or her training practice.</p>
41-45	Consolidate the learnings from the session by discussing the key learning points, and clarify participants' queries, if any.

■ Session 2.6: Briefing about Participants led Sessions

 **Duration of the Session: 15 minutes**

Session Objectives

At the end of this session, 5-6 groups of participants will be formed for the mini sessions and topics will be allocated for preparation

Key Learning Points

- Clarity of the process for session delivery with special reference to key learning points.
-

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-15	<ul style="list-style-type: none">• Explain the groups that as a part of learning process of ToT they need to plan for a session of 20 or 30 minutes depending upon the topic allocated. The minimum deliverables of this are:<ul style="list-style-type: none">▫ Each participant the group need to plan their topic within the session▫ The session plan made by the group should be able to communicate key learning points clearly.▫ The session plan should to be based on planned training method and should be facilitated with the help of any training aid except power point presentation.• After the briefing, give the groups time to prepare till the time allocated for preparation the next day.

List of Training Material

- White Board

■ Session 2.7 Daily Feedback

This is a standard practice followed at every RedR India training. At the end of each day of the training, facilitators are expected to collect feedback from the participants to understand how well the sessions of the day have been received by the participants and whether any changes need to be made from the following day.

The process is as follows:

- At the end of the day, facilitators ask members of the Training Management Team (TMT) of that particular day to discuss with their respective group members two questions - “what went well?”, and “what are the suggestions for improvement?”.
- Once the TMT has collected all the feedback, the rest of the participants are allowed to leave the training venue for the day.
- The TMT then sits down with the training team to share the feedback received from their respective groups, which the training team makes a note of.
- Before beginning the next day’s sessions, facilitators share with the participants the suggestions received the previous day which they intend to incorporate during their sessions from that day on.

■ 6. DAY THREE OF TRAINING

■ Session 3.0 Recap of the previous day

 **Duration of the Session: 15 minutes**

Facilitation Guide

The recap can be done in a group or through a game, the facilitator can use various ways to make it more interesting. The purpose of the recap is to make the participants go through the previous day session before going through the new sessions so that they can remember the key discussions. The participants should be encouraged to take part actively. The time can also be used for any discussion that was not completed the previous day however, the facilitator should remember to stick to the time slot.

One method of using game for recap session is through a ball game. The participants are asked to stand in a circle, a ball is passed across and whoever the ball is thrown at has to share few learnings about the previous day session.

■ Session 3.1 Preparation for Participants led Sessions

 **Duration of the Session: 120 minutes**


Session Objectives

At the end of this session participants will be able to design and demonstrate sessions of 20/30 minutes in teams of three or four.

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-120	<ul style="list-style-type: none">• Following from the briefing from the previous day, inform the participants that they have 120 minutes to plan, design and prepare for the group sessions.• Emphasize that each participant within a group should be involved in facilitation meaningfully.

■ Session 3.2 Participants led Session

 **Duration of the Session: Depends upon number of participants/ groups. (20 minute or 30 minutes. maxi session + 5 minute feedback)**

Session Objectives

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

- Demonstrate audience specific session planning.
 - Demonstrate training skills of selecting and using training methods and aids based on adult learning principles.
 - Describe dos and don'ts of dealing with critical moments.
-

Key Learning Points

Key learning points of this session vary as per the skills demonstrated by the participants with reference to:

- Clarity of the process for session delivery with special reference to key learning points.
 - Use of appropriate training methods for soliciting participation.
 - Organising physical space and training aids with special reference to audience.
 - Quality of training aids developed Visual aid vs Text heavy training aids.
 - Space provided for participants to do and express.
 - Opening, processing and consolidation.
-

Facilitator's Guide

Time Slot in Minutes	Session Plan
All through the session	<ul style="list-style-type: none">• Explain concept of feedback for learning.• Allow participant to give feedback to himself or herself.• Facilitate discussion in the entire group about the key learning points.• Make participants comfortable.• List key learning points on a white board or on a flip chart for consolidation.• At any time in these mini session, don't engage in the discussion about content.

■ Session 3.3 Consolidation of Learning

 **Duration of the Session: 15 mins**

Key Learning Objectives

By the end of the session, the participants will be able to consolidate the learning from the course from day 1, link the if the expectation and objective of the course have been achieved, raise queries and have discussion on topics that were not addressed during the sessions.

Key Learning Points

At the end of the session participants will be able to list key take away learning points which they will apply in practice.

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-15	<ul style="list-style-type: none">• Request participants to reflect about the three days of the training course. Quickly review the names of the sessions throughout the learning process.• After 5 min. request participants to stick all the cards on the wall and read others.• Conclude the learning by highlighting key learning points emerging from the participants

■ Session 3.4 Formation of Groups for Field Training

 **Duration of the Session: 15 mins**

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-15	<ul style="list-style-type: none">• Depending upon the number of participants in the training, divide the participants into groups of 4 for the field training.• Following the division, make a plan for the field training including schedule, location and dates for each group.• Emphasise that each group should work as a training team to plan and design the field training. Facilitators will support each training team to prepare. <p><i>Key considerations for group formation are geographical location of participants, training skills and availability.</i></p>

■ Session 3.5 Course Evaluation and Closure

 **Duration of the Session: 30 mins**

Key Learning Objectives

At the end of this session, participants will evaluate the overall training experience and provide feedback. The participants will be felicitated for successfully completing the training course.

Key Learning Points

Training evaluation is an important part of training which helps provides feedback to trainers for bettering future training.

Facilitator's Guide

Time Slot in Minutes	Session Plan
0-30	<ul style="list-style-type: none">• Take photo copy or printout of the training evaluation form and distribute among participants. Ask the participants to fill the form in 10 minutes. Collect the forms after completion. See chapter 9 for Training Evaluation Format• Conclude the training course with thanks and handover certificates to all the participants

■ 7.FACILITATOR GUIDANCE NOTE ON GROUP WORK

The facilitator focuses on two objectives: Purpose and Process.

- The purpose is what the group has agreed to discuss or make a decision around. It needs to be clear to everyone and to be owned by the group.
- The process is the work the facilitator does to ensure the discussion flows well and participation is maximized.
-

Purpose in Facilitation:

- **Keeping the group ‘on track’:** gently checking out with the group if what looks like a side track to you, is off the point.
- **Identifying and linking common themes:** by listening for people saying the same thing in different ways we can link themes and help prevent the discussion going around in circles
- **Clarifying confusing statements:** by reflecting back what we have heard, checking out if this is what they meant we can help the individual clarify their thinking and the issues become clearer.
- **Summarising/organising ideas:** being able to succinctly summarise the main points, as you have heard them articulated by the group, is a great skill. It can help clarify where the group is up to on an issue, identify where to focus next and save time.
- **Decision identification:** in a decision making process it is important to recognise when the group seems like it is ready to make a decision, otherwise the discussion may go around in circles going over old ground.
- **Testing for agreement:** when making decisions we need to seek specific agreement from the group with openness to some people still not being up to this point of agreement.

Process in Facilitation:

- **Getting group permission:** It is important that people clearly understand the role of facilitator, and that the facilitator is at the ‘service of the whole group’. We need to have ‘permission’ from the group before we step into the role of facilitator. It is this ‘permission’ that gives us the right to facilitate the group.
- **Ensure the expected outcome/s or objectives are clear:** Review objectives with the group at the beginning of the meeting, if these have been established in advance of the meeting.
- **Establish expectations:** Ask about the expectations the participants have of you and each other. Then ask them to list their hopes and concerns of the meeting. If necessary, help them to set their own ‘ground rules’ whilst working together i.e. acceptable behaviours.
- **Equalising and managing participation:** Participant’s communication styles may vary, along with their quantity of verbal contributions. Not everyone needs to participate to exactly the same level. However, it is important that the air space is shared and that everyone gets a chance to contribute. Draw out the quieter participants through small group work. Try asking a ‘safe’ question or establishing their opinion, once the topic has been initially debated. Sometimes you may need to ask one person to hold on to a point they were going to make to give another person a chance to speak or finish what they were saying. You can ask to hear from people who have not spoken yet, or occasionally go around the whole group asking for everyone’s thoughts. In addition, consider allocating different roles to the high frequency or noisy contributors such as minute taker, time keeper, or writing on the flipchart. Ensure group work has a balance of participants with different communication styles.
- **Pacing the session:** If the group seems to be anxious about time and is rushing through an item being discussed, you can point this out and invite them to slow down. If the group feels ‘flat’ or the energy is low, you might ask the group if others feel this ‘flatness’ and if so what might be causing

it. Maybe you may simply need a break or a quick energising activity. As facilitator you don't have to try and work out what is going on, you just need to name what you notice to the group. The group is then responsible for deciding what to do.

- **Negotiating time adjustments:** Attaching times to each agenda item in a meeting or each segment in a group session can help manage time. The group needs to understand and 'own' this and agree if you need to go over time. Everyone must consciously agree if a meeting is to go past the nominated time.
- **Adjust facilitation style:** The facilitation style needs to meet the needs of the group at different development stages. For example, a directive style of facilitation works well at the beginning of a meeting. This is because participants typically prefer someone to initially take charge and take them in the right direction – particularly in new group meetings. However, after time when the group has settled down working effectively together, a more suggestive or consultative facilitation style would be more appropriate.
- **Identifying and acknowledging feeling:** When people express feelings, verbally or non-verbally, associated with an issue these need to be gently acknowledged. This lets the person know that we hear these feelings and that we are ok with them being expressed.
- **Interpersonal communication issues:** When there seems to be some clash or unspoken tension between some people in the group which is affecting the group process, it is helpful to name these so they are brought into the open. Remember, the facilitator does not need to have an answer to the problem. The people involved or the group can work out what needs to be done.
- **Conflict:** Conflict in the group is probably the number one facilitator fear! Again, we don't need to know what to do about it and it's not our responsibility to 'fix' it. We need to name it (without blame or judgement) and then facilitate the group to decide what to do with it.
- **Soliciting feedback:** It is useful to seek the group's feedback from time to time during a meeting or group session, especially if things seem flat or off track. It is not a sign of failure to check out with the group how things are going. It is all part of being at the service of the group. Experienced facilitators need to do this too. Sometimes as the facilitator we can get a bit lost with the process or where things are up to.
- **Evaluation:** Every group meeting should end with an evaluation. This helps everyone in the group take some ownership of the group process. It informs us as facilitators so we can learn from the feedback and take this into account next time. It also helps prevent people going away from a session with unexpressed feelings about the session.

■ Group Facilitation Techniques and Methods

Ground Rules

First, the facilitator or meeting leader should get the group establish some 'ground rules' or a 'team code' for group working. Do this at an early stage of the group coming together.

In addition, key principles for setting these ground rules are that they:

- Establish an acceptable code of behaviour
- Provide a frame of reference for group members to challenge constructively
- Help the group gain agreement of what is important
- Are specific enough to be practical
- Do not stifle the groups' creativity
- Remain within the team

So how do you go about setting these group working rules? We suggest:

- Getting the group and recording feedback on the flipchart

- Asking each individual in the group to summarise their own thoughts on post-it notes, then place them on the board
- If time is short, have some visuals with key words on that represent 'ground rules' or an appropriate 'team code of behaviour' for the day

Brainstorming

Brainstorming is an ideal tool for generating a large quantity of ideas within the group. However, for effective brainstorming sessions:

- Ideas should flow freely
- Aim for quantity, not quality of ideas
- Record every idea clearly
- Do not criticise or evaluate ideas in the session

In addition, the facilitator should also encourage the team to come up with several 'off the wall' ideas. These can often stimulate the ideal solution.

Flipchart

Using a flipchart during a team meeting can provide a creative, yet structured, working environment and bring focus to the group. Here are a few tips for effective flipchart use:

- Place the flipchart at the front of the group.
- Ensure you have plenty of flipchart paper to hand.
- Stand to the side of the flipchart to ensure everyone can see.
- Whilst standing to one side, practice writing on flipchart. If you are right handed you may find standing to the left (facing the flipchart) of the flipchart easier.
- Write headings, where appropriate, onto the flipchart to focus the group on the issue or question.
- Use clear, bold, large font – ('capitals only' helps some facilitators), to ensure the participants can read easily.
- Utilise different colours and bullet points when writing on the flipchart. However, remember that 'red' and 'green' are not helpful for group members who are colour blind.

Structured Problem Solving/Decision Making

There are many different problem-solving processes available, but essentially, most stages follow this structure:

- Define the problem
- Present the background
- Generate ideas
- Group ideas
- Choose the idea/s
- Check commitment

Meta-planning

Meta-planning is a simple technique that encourages individuals to express their thoughts on the issue under discussion. In summary, it involves writing key words onto Post-it notes and then collectively placing and arranging them into sub-groups on a flipchart or wall space.

Ask individuals to quietly write one idea per Post-It note and then place the notes onto a board, sheet of flipchart paper or similar. When all the notes are on the board, you (or one or two members of the group) can then collate similar ideas together and add a sub heading. As a result, this approach helps to incorporate everyone's ideas and contributions in the shortest amount of time. It also enables the group to come to some quick conclusions.

Ranking

Ranking is a decision-making technique that helps the group select the most appropriate and relevant idea. Firstly, you can use brainstorming to generate the quantity of ideas you are looking for. Then the group must determine a selection criterion to use, to guide their personal decision-making process, against a numerical scale.

For example, each person might apply a one to six rating, where six is their preferred choice. Finally, the scores of each participant are then added together to determine the most appropriate and relevant idea.

Round Robin

This simple technique aims to raise participation levels or to help define a problem. Then each person in the group is asked to state their views on the issue under discussion, without being interrupted by anyone else in the group.

As a result, the facilitator is then able to get the group to summarise these ideas and views, before the group moves on.

Energisers

Energisers are ideal to raise personal energy levels within the group. Use these, where necessary, at appropriate intervals throughout the day, to re-vitalise the group. You can build up your repertoire of energisers by reviewing training manuals, sharing ideas with colleagues and thinking up your own.

The key principles of using energisers are:

- They should be fun and uplifting.
- Make them short e.g. five minutes.
- Conduct them with sufficient space.
- To be mindful of any potential health and safety hazards e.g. no chairs or equipment in the way.
- They are not physically too demanding and that everyone in the group will be able to participate.

Group Review

Getting the group to review what they have learnt and gained out of the meeting will help facilitate higher performance. This only takes five to ten minutes. Start by asking three simple questions:

- What did we do that worked well?
- Did anything not work well?
- Should we do anything differently next time?

References:

- <https://www.ksl-training.co.uk/free-resources/facilitation-techniques/tips-for-facilitating-groups/>
- <https://groupwork.com.au/facilitation-services/what-do-facilitators-do/?v=3a1ed7090bfa>

■ 7. LIST OF ENERGISERS

■ Fruit Salad

Ask the participants think of 5-6 fruits name (depend on the number participants present but it should be made sure that there are at least 2 people with the same fruits. E.g. if there are 6 people have 3 fruit names). After the fruits name has been identified, ask them to stand in a circle and say the name of the fruit in a series and ask them to remember their fruits name. The facilitator will call out different fruit names at a time and those participants whose fruits name are called out need to run and take space in the circle. Make sure that the circle does not break.

■ Collective Counting 3 and 7 clap

Explain to the group that we'll be working together to count as high as we can. Group sits in a circle and one person starts by saying 'one'. The person on their right says 'two' and so it continues. However, for any number that has a 3 or a 7 in it, the person needs to clap rather than saying the number. This is not about tricky maths and thinking of numbers that are made up of 3s or 7s (like 14 or 21), just numbers that actually has a 3 or 7 as part of its name (3,7,13,17,23etc). When someone says a number that has a 3 or 7 in it, the group need to start again from the beginning. The facilitator needs to play an active role in restarting the group. The thirties are often tricky as people don't realize that they need to clap for all of them. That's great! Don't tell them ahead of time, it causes laughter and sharpens their thinking. Try to play until the group reaches 50 or higher. However, if you run out of time its fine to finish earlier. This can be repeated as an energizer later in a workshop as groups like to try and better their previous score.

■ Name Games

Two people to your left One person starts by introducing themselves “I'm” The person on their right then introduces the person who went first and then themselves, “this is and I'm” . Then the third person introduces person one and two (the two people to their left) and then themselves. E.g. “This is, this is and I'm” Person four doesn't introduce everyone who has already been introduced, just the two people on their left (person two, three and then themselves). Person five also introduces the two people on their left and then themselves (e.g. person three, four and themselves) and so on. Let people know at the beginning that this isn't the scary game where they have to try and remember everyone, they only need to remember the two people to their left. This exercise works well as the group will hear everyone’s names three times.

■ Name Ball Throw

Once everyone has already introduced themselves to one another and heard each other’s names, get everyone into a circle. Have one person start and throw the ball to someone else while saying their name. Continue, with each person having to throw the ball to someone who hasn't already received the ball. Once the ball has made its way to everyone in the group, start again from the beginning following the same sequence of people (saying the names as the ball is thrown), this time a little faster, encouraging people to also remember the name of the person that threw the ball to them. Once you have finished, you can then try doing this in reverse, with each person throwing the ball back to the person that threw it to them. For added complexity you can add another ball.

■ Alliteration Introductions

An excellent game for players to get to know each other's names. Ask group members to stand in a circle, if room space permits. A player starts the game by introducing himself or herself by making a gesture, and alliterating his/her name, e.g. "I'm Wonderful Wendy" or "I'm Smart Steve". The next player points to the first player, repeats the previous player's name, attribute and gesture, and does something similar about himself or herself. And so on. The game ends with the first player having to do every other player's gesture, repeating their names and attributes.

■ The Telephone/Chinese Whisperer

Participants should sit or stand in a circle. The facilitator quickly whispers a message to one participant. This participant passes the message in a whisper to the next person and so on. The last person shouts out the message. Chances are the final message will be different from the original. Here is an example of an initial message (note how two different activities are blended into the initial statement, a sure cause for confusion when whispered quickly): "I had rice for dinner and then dressed in blue to go dancing."

■ Find Someone Wearing

Ask participants to walk around loosely, shaking their limbs and generally relaxing. After a short while, the facilitator shouts out "Find someone..." and names an article of clothing. The participants have to rush to stand close to the person described. Repeat this exercise several times using different types of clothing.

References for more group energizers:

- <http://awea.org.nz/sites/awea.org.nz/files/Collection%20of%20energisers%2C%20name%20games%2C%20and%20ways%20to%20break%20into%20small%20groups.pdf>
- <https://sixth.ucsd.edu/files/home/student-life/icebreakers-teambuilding-activities-energizers.pdf>
- <http://reprolineplus.org/system/files/resources/icebreak3.pdf>
- https://www.aidsalliance.org/assets/000/001/052/ene0502_Energiser_guide_eng_original.pdf?1413808298

8. EVALUATION FORM

Date and Venue:

How will you rank the training course?

Please rank the following between 1 (poor) and 5 (excellent)

Course Objectives and Delivery	1	2	3	4	5
To what extent have the objectives of the programme been achieved?					
Did the learning aids and resources assist you in achieving the learning objectives?					
Was the delivery of course sessions effective?					
To what extent did the course strike the right balance between lecture, discussion, and exercise?					

Course Content	1	2	3	4	5
To what extent was the course content relevant to learning of the subject?					
How do you feel about the quantity of content at this training?					
How would you rate the content provided at the training?					

Facilitators' Evaluation	1	2	3	4	5
Did you think the facilitators were well prepared and professional?					
Did the facilitators answer questions clearly and accurately?					
Please rate the overall quality of facilitation					

Training Administration and Venue	1	2	3	4	5
How was the course booking procedure?					
Were the joining instructions adequate?					
Did the course represent value for money?					
Were facilities at the venue suitable for training?					
Were the accommodation and catering suitable?					

What is your overall rating of this programme? (Please tick or circle)

Poor 1 2 3 4 5 Excellent

Please comment further on the following

What did you learn from the programme?

What did you like the most about the programme?

What did you like the least about the programme?

Do you have any suggestions on how we can further improve the programme?

It is optional to place your name on this form, however, should you wish to identify yourself and any further training you would like to undertake, please use this box.





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