Easy Volunteer Actions

A handbook for supporting disaster-prone communities with food security and livelihoods activities

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In partnership with

British Red Cross

Livelihoods Centre

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“The secret of getting ahead is getting started. The secret of getting started is breaking your complex overwhelming tasks into small manageable tasks, and starting on the first one.”

Mark Twain, American author
This handbook describes 12 activities that Red Cross and Red Crescent (RCRC) volunteers can easily carry out by themselves using resources already available in the community. The activities are designed to help communities to produce more food and income and to stay safe and healthy in areas where there are challenges such as droughts and floods. Each activity selected is particularly relevant for the local context in Southern and Eastern Africa, but most activities can be done anywhere in the world with some small adjustments. The information is presented for Red Cross and Red Crescent volunteers to guide their discussions and activities with communities.

This handbook has 12 sections. The activities in each section can help increase food security and strengthen livelihoods. The sections are:

1. Gardens
2. Compost
3. Shaded Seedling Nurseries
4. Homemade Liquid Fertilisers
5. Improving Farming Practices
6. Lead Farmers and Demonstration Farming
7. Water Harvesting and Conservation
8. Safe Water, Sanitation and Hygiene
9. Nutrition Awareness
10. Reducing Fuel for Cooking
11. Early Warning and Early Action
12. Savings and Loan Associations

All these activities have been designed to:
- Be easy to understand and carried out by Red Cross and Red Crescent volunteers,
- Require little or no external resources, support, technology or funding,
- Need no special skills, capacities or external advice.

Each activity has been carefully selected to increase the ability of people to withstand, or be ‘resilient to,’ the shocks, stresses and hazards related to changing climate. These activities do not represent a comprehensive list of all actions that build resilience, but those that have been proven to be effective by a wide range of organisations and Red Cross and Red Crescent volunteers and staff. The activities can benefit families and communities in a wide range of contexts and different locations.
A resilient community is one that is better able to **withstand and recover** from shocks and stresses.

Resilience refers to how well a person, community, household, organisation or any other living thing or system can survive and respond to different types of shocks and stresses.

Resilience involves identifying and understanding issues before they become a ‘crisis’ and being **prepared for** and able to deal with the shocks. It also means being able to **adapt** or change the way we do things so that we can work and live better in increasingly uncertain and changing conditions.


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**Who is this handbook for?**

This handbook is designed for RCRC volunteers to use together with communities. Volunteers can carefully share and discuss the activities described in this handbook with different members of a community, allowing them to select their preferred activities. Whenever possible, volunteers should try to promote relevant activities that help the poorest and most vulnerable people.

The content of this handbook is also useful for those managing programmes and projects, helping the design of interventions to be led by volunteers and the communities they work with.

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1It was written with input from volunteers and project staff across the Red Cross Red Crescent Movement, and was tested in Malawi with volunteers, project staff and a small number of communities. The steps have been developed after consultation with many projects, experts, research and with other volunteers from within the movement and beyond.
What knowledge or skills do volunteers need?

The activities in this handbook have been selected deliberately so that volunteers do not need any special knowledge or skills to lead these activities. The most important skills needed are those that RCRC volunteers usually already have:

- **Motivating and organising people** and helping people come to decisions in groups
- **Patience and persistence to clearly explain ideas** and trying to help and support people
- **The confidence to ask other knowledgeable people** such as successful gardeners, government extension officers, health workers or teachers for advice and persuade these key people to support you in an activity

What knowledge or skills do participants need?

The activities in this handbook have been selected so that people participating in activities do not require any special knowledge or skills. The aim is that volunteers will guide participants using the information in this handbook and work together with knowledgeable members of the community, such as lead farmers, extension officers, teachers or health workers, to build their skills.

How can volunteers gain further knowledge and skills and access training?

The activities in this handbook are intended to be low cost and easy to do, so volunteers should not need additional skills or training. However, if volunteers are able to improve their knowledge and understanding by talking to knowledgeable people locally, referring to some of the useful resources in the Annex or accessing any available trainings, then this will help them gain confidence and expertise. For some activities, such as Savings and Loans Associations (Section 12), further training and advice from local experts might be needed and is encouraged.

As a volunteer you should try and get advice or support from other knowledgeable or experienced people nearby first. If this is not possible, you may want to build your own technical knowledge to be confident that you are giving the right advice and support. You can do this by asking other knowledgeable people for advice, researching further information online or in libraries, signing up to training opportunities, or learning by doing.

**Top Tip:** Volunteers do not need to know everything themselves – try asking other knowledgeable people if they can provide advice and support or if they may be willing to help with demonstrations, training and other support.

Ask your local, regional or national Red Cross and Red Crescent representatives what advice or support they could provide. There are excellent training courses provided online by the **IFRC Livelihoods Centre**. Local and regional government extension services and local non-governmental organisations may also have support or training opportunities that they may be willing to offer.
How is this handbook organised?

This handbook is organised in three parts:

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### Part 1

The introduction explains:
- What the handbook is, who it is for and how to use it.
- General guidance on selecting an activity
- Essential guidance to follow before you start the activity that applies to all the suggested activities to help volunteers to plan, get organised and get started.

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### Part 2

12 Easy Volunteer Actions Sections – a ‘menu’ of different activities for volunteers and their communities to select from. Each activity chapter contains:
- A summary of the activity – what does it look like? What are the main benefits, and any ‘key messages’ to help introduce the activity to others?
- A Preparation section – what the volunteer needs to do before the activity can start and when is the best time to start it. This Preparation section encourages the volunteer to assess the ways risks can be avoided before the activity begins.
- A ‘How to implement the activity?’ section – with a step by step description of how to carry out the activity. It lists some ‘Things to watch out for’, includes ‘Top tips’ from practitioners and ‘Key messages’ to focus on when implementing the activity. It also lists other activities in the handbook that can support the selected activity.
- An overview of ‘Resources and skills needed’ – which summarises any resources needed and their approximate costs; any skills or knowledge needed by volunteers or participants; and finally what needs to be monitored or followed-up by the volunteer.

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### Part 3

The Annex contains additional sources of information;
- Acknowledgements
- Acronyms
- Tables, diagrams and other resources referred to in the handbook (organised by section)
- Useful Resources (organised by section)
General guidance on selecting an activity

Choose the activities that are right for your community context

There are no strict rules. Each activity will need to be assessed on a case by case basis. We have tried to select activities that are suited to lots of different types of people. Almost all activities are suitable for women, men, youths and the elderly, and some are more suited than others for children or people with disabilities or chronic illnesses and the people that care for them.

Most activities are suitable for all contexts (rural, urban, conflicted affected, disaster prone etc.). However the following sections are less suitable for ‘nomadic communities or people on the move’: Gardens, Composting, Homemade Liquid Fertilisers, Improved Farming Practices, Lead Farmers and Demonstration Farming, Water Harvesting and Conservation but there will always be exceptions. Cookstoves (Section 10) are likely to need to be portable for people on the move.

Almost all activities can be adapted to work in towns and cities, though some like the Improving Farming Practices, Lead Farmers and Demonstration Farming sections will be less suitable. From the Water Harvesting section only the rooftop water harvesting would be suitable in an urban area.

It can be challenging to choose an activity and decide who to involve in the community. It may be that several of the activities are of interest to your community and you will need to decide with the community which is most appropriate and manageable. You might need to adapt activities so that they are right for the people and contexts of the community where you volunteer.

This section will help you organise discussions with people to decide which of the 12 activities will be most beneficial for the communities you are working with.

Top Tips:
- Don’t over-stretch yourself by trying to do too many activities or too much at once!
- Choose a section and start with one activity first.
- Start small and you will end up stronger!

You are advised to start with only one activity first. This will allow you to:
✓ Gain support and agreement from participants
✓ Gather advice and support from other knowledgeable, experienced people to make the first activity a success
✓ Build experience and confidence, and gain the trust of the community before tackling another activity

Selecting the right activity can be complicated, so you are advised to consult others and break the decision-making down into stages: first, shortlist activities and consult key stakeholders, and then confirm the final selection with the community.
Follow these steps:

**Step 1**  Review all the activities and make a shortlist of those you think will suit the community based on their context and the conditions, risks and crises they face

- Take note of what information you will need to confirm the activity is feasible in your community
- Take note of what information you will need to carry out the activity

**Step 2**  Discuss the choice of activities with key people

- Ask male and female community leaders, other volunteers and other relevant knowledgeable people about which activity they would prioritise
- Ask a few of the people you think will be participating in the activity about their preferences and if they think it will be feasible
- Try to ask some of the poorest or most vulnerable people (or the people that represent them) about their needs and priorities
- Make a list of key questions to discuss with the key people you talk to. Here are a few questions you may want to include in your first discussions:
  - What are the needs or problems in the community?
  - Who are the people who most need help in the community?
  - Do any projects or activities already exist that address these issues?
  - Which of the activities on this shortlist could help address the most important problems?
  - Can people and particularly the most vulnerable participate in these activities?

**Step 3**  Select a provisional activity to start with

**Step 4**  Confirm the selected provisional activity with the community

Call a community meeting

- Include the key people from your initial consultation: community leaders, knowledgeable local people, extension officers, NGO staff etc.
- Ensure you invite people you think might benefit from being involved in the activity.
- Try and include some of the poorest or most vulnerable people (such as the elderly, people with disabilities or who are looking after the chronically sick, female heads of households) or the people that they nominate to represent them.
- Be ready to listen carefully and respectfully to what people say in the meeting.
- Be ready to take note of their concerns and their ideas
**Explain the purpose of the meeting**
- Discuss and get the views of the community on which activities will be most helpful to improve their ability to better withstand shocks and stresses, with particular attention to the needs of the poorest and most vulnerable.

**Present and discuss the findings of the initial shortlisting**
- Present a short summary on each of the shortlisted activities which were discussed with key people and why the provisional activity was selected.
- Ask for feedback from lots of different people on whether they agree with the selection of the provisional activity. Be sure to call on people who you hope will get involved.

**Find an agreement for one activity**
- If there is a general agreement for one activity, then agree when to meet with all those interested in supporting or participating in the activity for further planning.
- If there is no clear agreement on one activity, consider holding a vote to select the most popular. Before the vote, summarise the key points of each activity and the potential benefits of each one. Reassure people that other activities can be considered again at a later date.
- If there is no agreement, go to Step 5.

**Step 5 If needed, organise a community action planning meeting to identify other new activities**
- The community may decide there are other activities to work on that are different to the activities in this handbook. Follow the advice in the ‘Community Action Planning’ section below to identify other solutions and activities.
- You will still find valuable ideas in this handbook and in the Essential Guidance for all activities section that will help you support alternative activities.

Following all these steps and involving a good mix of leaders, knowledgeable people and different people from the community who would participate and benefit from the activity, will help you to be sure you select the right activity.

If, at any time, information comes to light that the activity is not suitable, do not try to continue something that is clearly not working. Go back to Step 1, and see if you can find another starting point for an activity in the community.

**Remember you may find out new information that will encourage you to go back and change your decision!**

It is worth taking time to make the right decision!

After you and the community are confident you have selected an appropriate activity, go through the next section of Essential Guidance to help you with the planning of the activity.
“It is essential for volunteers to read and follow the advice in this section to avoid doing any harm within their communities.”
Essential Guidance for all activities

What will you find in this section?

- How to organise effective meetings
- Selecting participants and managing groups
- Planning your activity
- Linking with others
- How to avoid risks
- Community action planning
- How to share information
- How to spread good ideas
- Following-up and monitoring

The essential guidance in this section is relevant for all the activities in the handbook. After provisionally selecting the activity, follow the guidance to plan the activity and begin to mobilise people to take part.
How to organise effective meetings

People’s time is important to them and running good meetings helps them appreciate the activity and motivates them to get involved. Here are a few tips on how to run an effective meeting:

- **Find out when the best time for a meeting is** - make sure that the types of people who really need to be there can come. For example, think about different tasks and working hours for women and men that might prevent them from participating.

- **Find a suitable place for the meeting** - make sure it is safe and comfortable and in a place that is easily accessible to the types of people that you invite. Think about mobility problems faced by the elderly, people with disabilities (PWD) or people who are chronically sick, and any transport limitations that people may face.

- **Announce the time and place and ensure that the meeting starts on time**. Sometimes there are people who will be late or cannot join – that is fine, and you can just make a note of this. Try and start on time because people’s time is precious, and some may have to leave before important announcements or before decisions are agreed.

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**Top tips: Calling for a meeting**

- Announce the time, place and purpose of the meeting and who it is for. Use different channels of communication to announce the meeting and make sure that people who should take part in the meeting are able to receive the message.

- If you are not very well known in a community, you may prefer to ask another respected individual or leader in the community to call a meeting on your behalf. This could be the community or women’s group leader. If the meeting is in the local school for example, perhaps the headteacher may be able to call the meeting for you?

- Alternatively, ask if you can introduce your ideas and activity at an existing community meeting such as a village meeting, local council, parents-teachers or neighbourhood meeting. You may not be given much time there so introduce the idea briefly and then propose another meeting time to discuss your idea in more detail.
- **Be clear about the purpose of the meeting:** what information will be shared and what decisions should be made.

- **Prepare a list of agenda points for the meeting,** announce the agenda and follow it.

- **Allow enough time for anyone who is presenting** – but set a time limit per speaker. It is worth asking a trusted person to be a ‘timekeeper’ and move people onto the next agenda item if time is running short. If some questions or discussion points would require a lengthy discussion that are not part of the agenda, make a note of it and come back to them in another meeting.

- **Make the meeting relevant** to the group that is attending and consider breaks and refreshment.

- **Take a note of the people who attend** and how they would prefer to be contacted with information (e.g. mobile text messages, noticeboards etc.).

- **Ensure that everyone at the meeting can take part in any discussion** - consider how you can encourage people who may feel less confident or less able to speak up (women or the elderly, children or people with disabilities for example). You can give time to discuss things in smaller sub-groups rather than discussing everything in one big group. This allows some quieter members to be able to give their opinion. Allow time for questions at the end of the meeting.

- **Summarise key decision points and next steps** at the end of the meeting.

Each meeting is different. As group members get to know each other, running the meetings becomes easier! Get to know each other, running the meetings becomes easier! More guidance on holding meetings is provided below, in the section on Group Activities.

### Selecting participants and managing groups

After the initial consultation and the community meeting, you will already have some knowledge on who would be best suited to be involved. But it is important to check your ideas with the wider community. Consult the poorest and the most vulnerable who might benefit the most from the activity. Here are some tips:

#### Top tips:

- Be sure that you discuss and prioritise people who are most in need of the benefits from the activity.

- Ensure that people who sometimes do not attend or speak out at community meetings are consulted. How are you going to consult people with disabilities or households caring for chronically sick people or those living or caring for those with HIV/AIDS? If possible, go and talk to a few of these types of people face-to-face or consult their representatives (for example a disability group or organisation).

- In any meeting, it is important to keep asking yourself; ‘Who is not here who should be here?’ ‘Who is here but not speaking up?’ ‘Who is dominating the discussion?’

- Ensure you consult different ethnic, religious and language groups who may be less easy to access. You may prefer to consult their representatives or religious or traditional leaders.

- Remember! You cannot always include everyone who wants to be involved. Be realistic about what you can manage. Start with a small number of people and then expand later.

- Be open and transparent – you can ask the community themselves to decide who should be invited to participate in the activity or you can decide the reasons for selection. It is important to consult and keep the wider community informed about the reasons you have used to select the people for the activity. You can communicate this in many ways, such as in meetings or by displaying on notice boards etc. Always do a final check whether the people selected are the right ones in the community. Consider asking “Is there anyone who has been missed out?”
Decide whether to do the activity as a group or as individuals

The participants will need to discuss and decide whether people will work on the activity together in groups or whether people would prefer to do the activity by themselves or with their families or households. There are benefits and challenges with both. The right decision will depend on what the activity is and who is involved. Asking the following question can help you discuss and decide:

Who are the people you will be focusing on and working with?

Is the activity going to be for everyone in the community, or will it be for specific groups of people, such as disabled people, the youth or women only?

Think about the activity itself - will this require people to work together (for instance building a structure to harvest water at a school)? Or will a group of people learn about the activity together, but then carry out what is required on their own? Or will the activity involve working with households one by one?

For example:

- Section 12, Village Savings and Loans Associations, requires working in a group.

- Activities about gardening and farming can be talked about and done in groups, or individual households can decide to do them on their own.

- In Section 10 there are activities to improve cookstoves that can be demonstrated in a group meeting, and then volunteers or group members can visit other households to help them design and build their own cookstoves.

Is the activity suited for groups or individuals?

If it is a group activity, is it better suited for a general community discussion, or for specific groups of people?

Is the activity interesting to one type of person in particular – such as pregnant women, mothers of new-born children or school children? If the answer is yes, then you should mobilise that specific group and make sure the messages are tailored to them.

- For example, hygiene messages need to be understood by everyone in the family, but you may want to deliver the messages in different ways for children, men and women.

Some activities are relevant and important for the whole community, but, because of cultural practices and beliefs, it may be easier to discuss the activities in separate groups, for example:

- Certain personal health issues are easier for women to discuss among themselves separately from men.

- Young mother may prefer to hear messages about feeding and nutrition of children and babies away from other family members, who might want to impose their own set practices.

Individual activities

For activities that will be done mainly in individual homes, we are confident that as a RCRC volunteer you know how to follow local customs and courtesies about working with households. Below are a few tips to keep in mind.

Many activities can be started as group discussions and then followed up by individual household support. In a group or community meeting, you can explain what the activity will be, and to set up a timetable of when individual households will be visited and when they will carry out the activity.
Top Tips on working with individuals and households

- Agree a time to meet with the household and be there on time.
- Ensure the right people are at home for the activity. This may include the person planning to do the activity as well as other decision-makers such as wives and husbands.
- Introduce yourself, being courteous, not staying too long and leaving politely. Be clear on the purpose of the visit and stick to that purpose.
- Involve the household members in a discussion and be respectful – avoid lecturing anyone!
- Follow up on any promises or commitments that you make and do not make any commitments you cannot deliver.

Group activities

Working in groups is a great way to maximise time and resources. But it can take time and effort to agree on how to share the workload and divide the produce or profits. Try to predict problems before you start, and try to find solutions to deal with them.

Groups are strong and effective when they organise themselves, work together and involve everyone fairly. Ensure that everyone who is part of the group or meeting is heard and that no single person – no matter how important they are – dominates the meeting or group. Some ways to ensure that everyone can participate and have a say in a group include:

- Break the group into smaller groups of three to five people to discuss topics among themselves. One person can share with the rest of the group what their sub-group discussed and decided.
- Divide sub-groups by gender, age, or other categories if there are things that need to be discussed separately. For mixed groups, it is important to include people from different backgrounds, with different interests and needs, as well as women and men.
- Use different methods to engage people such as discussions, showing or drawing pictures, acting things out, practical demonstration, songs or games.

- Ask for help to ensure that vulnerable groups can attend. For instance, if someone has difficulties walking, arrange for someone to bring them to a meeting and reserve a seat for them.

- Assign different roles to different people, ensuring that some activities are reserved for quieter people.

- Elect group leaders. Groups need to be well organised, and many groups benefit from having a formal structure such as a chairperson or leader, a deputy or co-leader, a secretary and a treasurer. As a volunteer, you can help support a group to organise itself by providing advice – but you need to let the group organise itself, and to choose its own leaders and roles. Be clear that they need to suggest at least two people and where possible men and women should both be considered. Voting can be done openly by show of hands or anonymously by casting a ballot. The Annex at the end of this handbook gives some further guidance on how to undertake fairly ‘Voting or election of leaders’.

Top tip: Sometimes it’s best not to elect a group leader right at the start. You can ask people to ‘rotate’ being leaders, so everyone has a chance to do it. Then you can see who gains the trust of the group, and which people have leadership potential.

Planning your activity

Once you have agreement on what activity you will carry out, and who will participate, start to draw up a plan for how to implement the activity together with the participants or group.

Each Action Section provides a step by step guide for that specific activity. Use that guidance to draw up your own action plan, agreeing on when to do what, who is responsible, what resources are needed and who will contribute what.

It may help to write your plan in a notebook, on a flipchart or even on a chalkboard or wall. Your plan may change and become bigger as time goes by, so start with listing activities that you can realistically do in the first 4 to 8 weeks.

Any work that is carried out in the community needs to be agreed and have permission from different types of people and organisations. Make sure that you get approval for the activity plan and for the steps involved from community leaders, key officials (such as government) and the Red Cross Red Crescent local staff or representative.
Linking with others

You can achieve much more if you link and work with others who have information, skills, knowledge, experience and sometimes even resources that can be helpful. The activities can be a good way to build a network with these people – and the network can provide a lot of support for the activity you choose. Working with other skilled people will help you achieve more and may allow you to spread the activity to many more people (see “Spreading good ideas”).

Some activities will be most successful if the volunteers have a good link to people or organisations that provide important technical information, such as weather forecasts, extension officers and health workers etc. Below are a few ways to build and develop a network of contacts.

- Find out about other organisations that work in your area and when they visit, introduce yourself and explain what you are doing.
- Draw up a list of all the people that know about the topic of your activity. Reach out to a few people and note down other people that they know. As the list grows, so does your network!
- Join or create a phone or digital group – like a ‘WhatsApp’ group – with volunteers in other branches and share ideas and information with them.
- Look at the Useful Resources in the Annex of this handbook. Ask your Red Cross representative, local teachers or government staff to help you to find some of these resources, especially if they are online.
- Listen to the radio. If you can access the internet, check online resources.

Be careful connect with organisations or information sources that have a good reputation and beware of those that spread rumours. If in doubt about the quality of information from an organisation, check with your Red Cross Red Crescent representative!

How to avoid risks

It is important to discuss risks before you start any activity! Many activities fail when something happens that was not planned for, like a flood or another crisis. In each activity section there is a part called How can risks be avoided? Discuss these and ask people to consider what other things that could go wrong. What ways can people think to avoid these risks? If floods, cyclones, droughts or other common hazards occur, can people prepare or do things differently to help the community to be ready?

Top tip: Plan on what to do if things do go wrong – and think about how you can help the activity to recover!
Community action planning

If you are unable to select an activity from within this handbook that is suitable for your community, then you and your community may decide to try to identify alternative activities to help solve community problems that are not listed in this handbook.

This section outlines a way of working with the community to discuss the problems they face and come up with solutions, or better ways of doing things that could minimise the problems. Section 5 on ‘Improving Farming Practices’ and Section 6 on ‘Lead Farmers and Demonstration Farming’ also use slightly modified versions of this ‘community action planning’ approach. You are encouraged to refer to these sections for more detail.

Preparation

Call a meeting (see ‘Organising Meetings’). You will need pieces of paper or card, pens and somethings to either weigh down the pieces of paper on the floor (such as stones); or something to stick papers onto a wall. You will also need someone who can write to keep notes. If many people in your community are not able to read, then you may decide to draw simple pictures or symbols of each of the problems and solutions to help those people to follow the discussion more easily.

Problems that are of equal importance can stay on the same level

High priority problems

Low priority problems

Step 2 - Prioritising problems.
Step 1 – Defining the issue, need or problem
- Start the meeting with a clear purpose – for example ‘to identify a problem with farming’, or ‘to find a better way to capture and store water when it rains.’ Be specific so that the ideas that are generated are not too broad.
- If the meeting or group is bigger than 20 people, ask people to work in small sub-groups of 4 to 5 people and to write down or remember all the issues, problems or needs that they come up with.
- If the group includes people who can write, you can ask them to write one problem on one piece of paper. For example, if the ‘problem’ is crop losses, people write down each type of crop loss on a separate piece of paper.
- Or, you can ask people to discuss as much as they can about each point and write down as many details as possible, for example, for each crop: when it was lost, why, how, and what was done to try and save the crop.
- You can ask questions and encourage everyone else to ask questions to get as many problems listed as possible.

Step 2 – Prioritising
- As a group, you will need to decide on the most important problems or issues to work on.
- You can ask the group to place pieces of paper in order of importance. The most important issues or problems should be first and the least important should be last.
- Prioritising can take time as people need to discuss things and they will have different opinions. Allow these discussions to take place.
- Once the priority list has been agreed, make note of the order!
- You may decide that the meeting has been long enough, so suggest to people that you come back and discuss the solutions to the problems another day.

Step 3 – Generating Ideas and solutions
- Begin by reviewing the problems identified, starting with the priority ones at the top of the list and ask people to suggest solutions to the problem. You can ask people the following questions, to stimulate their ideas:
  - How can we be prepared to face this problem?
  - Can this problem be avoided? How?
  - Can this problem be shared with other communities or organisations?
  - Have anyone heard or seen ways of solving this problem or making it less worse?
  - Does anyone know of ways to make sure this doesn’t happen in the future?
  - Think of some of the activities in this booklet – would they help with this problem?
  - Go through as many of the ‘problems’ as you can!

Step 4 – Selecting a solution
- Look at the list of solutions – and ask the group to come to a decision on an activity that they think they could manage to undertake that would make the biggest improvement to the community. In order to be manageable, the community must feel that it has access to the right resources, skills or advice to make the solution successful. Solutions should always maximise the use of locally available materials.
- If a solution is identified that can help solve several problems, that has extra benefits.
- If there are a number of activities that are selected by the group and the group cannot decide on which one to start with, try to ask the group to think about selecting the one that will have most benefit to the poorest or the most vulnerable people. Or, ask the group to think about which activity they could achieve quickly, so that the community feels encouraged. You can consider voting for the preferred option!
Community engagement and accountability (CEA) is an approach that is key to Red Cross and Red Crescent programming and operations. CEA is an approach that puts communities at the centre of all activities. Through this approach, communities are involved in defining what is to be done, how it is done, and in communicating and carrying out the activities. [From ICRC 2016, A Red Cross Red Crescent Guide to Community Engagement and Accountability (CEA).]

How to share information

Many activities in this booklet involve communicating and providing messages to community members about an issue or problem. Messaging involves a lot more than ‘telling’ or speaking, and there are different ways to present messages. The method you choose will depend who you are speaking to, the purpose or aim of the messages, and the importance of the message. You can be creative in how you communicate with others.

All the messages presented in this booklet are general and intended for many different contexts and people – you will need be creative in adjusting your messages to make sure they make sense in your community and that they are heard by your community.

- Information shared with communities has the most impact when it is accurate, important, meaningful, and speaks directly to the people involved.
- It is important to share information with staff and volunteers before it is communicated publicly so that everyone shares consistent messages.
- You should test your information with some community members and volunteers to ensure it is well understood.

Select the combination of messaging types that will suit you, your activity and your community best:

**Individual messaging** takes time but is effective and can help make real changes in people's long-standing behaviours. House to house visits offer an opportunity to promote messages such as hygiene and sanitation. You can present your message, and also demonstrate how to improve things in a way that is directly relevant to that household, and watch them and support them in doing things. Individual messaging is also useful for discussing things that may be embarrassing or difficult for someone to talk about in a group.

**Group meetings** are useful for getting information to a number of people so that everyone understands, for example, when implementing a new way of farming. They can also be used to make announcements, demonstrate or present things to many people at once, but keep some of the personal interaction of individual messaging.

**Mass media and social media** are effective in delivering information to many people through loudspeakers, radio, posters, leaflets, notice boards, stickers and t-shirts. Social media channels can share a message with many people quickly but make sure that people have access to it and be careful about managing and verifying information shared.
Follow the advice below to develop a plan to deliver messages or any communication effectively:

01. Set the goal or purpose of the message. Is it about presenting an urgent piece of information, for example warning of a flood? Or is it about changing behaviour, for instance encouraging people to wash their hands?

02. Be specific about what you want to achieve with your message. Do you want the community to act immediately – for example evacuate? Or do you want them to think about improving something they are already doing?

03. Decide who this message is for. Describe these people - who are they? How do they normally receive messages – in a group or as individuals? Can they read or would pictures, or songs, be better?

04. Decide on the best way to spread the messages, thinking about when, where and how the messages are going to be communicated. Think about how much time the people you want to reach will have – and how much time you have.

05. Design your messaging plan. See some example methods in the table below – be creative in how you will communicate the information that people need.

- Test the messages and how you deliver them. Check the messages with a group who are similar in age, educational level and culture to those the message is trying to reach. Practice messaging!

06. Deliver the messages!

07. Follow up and repeat – the best messages are repeated many times before they are understood and remembered!
Try to use many different types of communication methods. This table describes some of the different methods you could use:

| Presentations, explanations & speech | - Present the message directly to a group of people or an individual.  
| - Speak clearly and keep the point that you want to make as short and clear as possible.  
| - Allow people to ask questions and give ideas. |

| Demonstration | - Present a message through showing how to do something or how something works.  
| - This is one of the best ways for convincing people that something works as it provides evidence they can see. |

| Posters, letters, leaflets, pictures, flipcharts, graffiti, drawings etc. | - Use drawings, cartoons and illustrations to represent the messages or to open discussions.  
| - Remind people about the message when the poster or leaflet or letter is displayed for some time. |

| Popular songs, storytelling or drama | - Create a short play, a song or a story to communicate the messages.  
| - Involve your audience – let them sing along, respond to questions in a play, use examples that they can relate to!  
| - Useful for messages that have several arguments, reasons or points to make.  
| - Effective in getting and holding people’s attention as they become involved in the drama / song / story! |
Digital, phone messaging, radio etc.

- Very effective to give important short messages to people who have mobile phones or radios.
- Good way to reach many people, repeat messages, and change messages to update people.
- Use ‘whatsapp’ groups on mobile phones and set up a system for people with phones to repeat messages to households without a phone.

Top Messaging Tips:
- Give one message at a time.
- Keep messages focused and simple.
- Avoid giving too much information at one time.
- Present messages positively and encourage people to make positive changes. Avoid telling them what NOT to do - focus on what TO DO.
- You can have fun and use humour whenever it is appropriate.
- Repeat the message using different methods, and update people regularly.

Spreading messages.
Gather a group of trainers or community messengers and hold a session to train them. Explain that they will learn what messages are important to spread and develop their own creative ways to deliver them. Run the session by:

- Sharing the messages that they will be spreading and discuss each message. Make sure everyone agrees with and understands these messages and why they are important.
- Divide the group into smaller teams of 4 – 5 participants. Assign one message to each of these groups and ask them to develop a presentation of this message.
  - The team can use whatever way they would like to present the message – drama, a song, a poster etc.
  - The team should use only the resources they have with them or they can find nearby easily – their voices, their acting skills, any sticks / stones / writing materials.
- Give 30 minutes for the teams to work in their groups and then ask them to come back together as a group.
- Let each group present their message to the rest of the group – allowing a maximum of five minutes per presentation.
- At end of the last presentation, ask the group to discuss what they thought worked well and less well.

Adapted from Danish Red Cross Youth. 2019. Youth Club Activities.

Try to make sure all members of the community have an equal chance to contribute. Check that the most vulnerable and people who do not often speak out are sitting at the front and are given the chance to speak.
Once an activity has run successfully in one area, it can be a good example for other communities to follow. As a volunteer, you will be able to share the experience with other people, but if each of the people involved in the activity commits to spreading the idea to their friends, family and neighbours, then the news will reach many more people.

Below are some ways to help increase the number of people whom you can reach with an activity and achieve greater scale and impact.

- Some projects run an awareness session in a community location—such as markets, schools or health centres—to show and tell other people about the new methods and the ideas they have used that have helped them.
- Develop posters or other displays in public spaces to show what has been done.
- Ask successful households to showcase what they have done. For example, a household that has successfully built and started using improved cookstoves can become a demonstration site for others to learn from.
- Ask a successful group to commit to training and supporting another group of people. You may need to follow up and check that the quality of instruction is maintained.
- Train other volunteers, community workers or community members to carry out specific activities, such as spreading messages on health or nutrition.
- Encourages exchange visits between communities—these are a good way to demonstrate successful activities like gardens or water harvesting projects. Invite members of a neighbouring community to visit—or go to visit another community and learn and share new ideas!
- Form clubs that try out new and improved ways of doing things, and once they learn what works best, become ‘ambassadors’ who will spread the word to others!
- Hold competitions to encourage as many households to take part in the activities as possible. The household that exhibits the best practices may be awarded a medal, status of ‘model home’ or ‘best household of the year’ and be used as a demonstration site!
A Mothers’ Club (MC) is an association of volunteer women who adhere to the Red Cross and Red Crescent principles, and come together to educate other members of the community on topics they have previously been trained on such as maternal and child health, hygiene and sanitation practices, nutrition, etc. After taking part in these training sessions, the members of the Mothers’ Clubs become ambassadors of good practices in their community or neighbourhood.
Following-up and monitoring

For each of the 12 sections you will find an action section that includes a short description of ‘What needs to be monitored or followed-up on?’. Volunteers should refer to these and think what other aspects they will need to monitor to ensure that an activity is undertaken to a good standard and to decide whether it is going well or not. This will allow them to learn what works and what doesn’t work so well, so they can advise people about how to do things better.

- Monitoring involves taking note of what people are doing, how they are doing it, and what the results are! Decide on a few things to monitor – for instance how many people are able to eat vegetables from their garden - and assign people to regularly collect the information. Reviewing the monitoring notes and comparing them across different households or activities can also help find ways to do something better the next time.

- Go back to your activity plan to check off those activities or tasks that have been completed and find out if and why things have not been done or have not worked as planned. Use these lessons to adjust and improve the way things are done in the future.

- Monitoring also helps volunteers to check factors or risks that affect communities. Regularly checking for signs of a drought, a health problem or even the price of crops or other factors can provide important information – or signals – for planning. Such information can help decide when to take actions early to protect people and their livelihoods against a hazard or other problems (see Section 11 on Early Warning and Early Action). Checklists are an effective way to keep track of what needs to be monitored and when.

The most effective monitoring happens when communities or households start to monitor themselves. Encourage people to monitor things that affect them regularly – for instance checking that they are eating the different food groups every day or monitoring their health regularly when pregnant. Encourage communities to identify their own signs of progress – the signs of change that represent success to them. These maybe things you had not initially thought of!
“Before, we had to go far away to our fields or gardens to get vegetables, but now if I cook in the evening I can just quickly step out of the kitchen hut and pick something fresh from the keyhole garden.”

Lead farmer in Zimbabwe
Gardens

Encouraging individuals, households or groups to grow fruit and vegetables in small plots or containers close to people’s homes.

What does the activity look like?

Gardens are usually as close to home as possible. This allows people to work and check the garden. They can also use leftover water from the house and food waste to improve the soil.

People do not need to own land in order to grow a garden. Gardens can grow in any area of ground, backyard or roof space, however small – such as under the eaves of houses, growing up walls, trees or fences, or planted into sacks, old containers, buckets or simple hand-built structures.
What are the main benefits?

- Gardens help people to grow food close to home, so can suit children, the elderly or others with mobility issues or confined to the home.
- Uses water people might otherwise throw away.
- Produces more food to eat and saves money by not having to purchase the vegetables.
- Provides more healthy nutritious diets, especially for children, the chronically ill or people with HIV.
- Allows people to grow foods that can tolerate bad weather, produce quickly after a crisis or to have food during the lean season.
- Makes people feel good about themselves, gain confidence, self-respect and self-worth.
“We had an issue of water shortage, but now that we have the keyhole gardens and can reuse the water from the house, we have vegetables easily available to eat.”

Farmer in Zimbabwe

Key messages

01. You can try planting demonstration gardens near to schools, health centres or other busy places to help spread the new ideas to other people.

02. Plant lots of different types of foods of different colours that will be rich in diverse nutrients to help keep people healthy.

03. Plant to produce extra goods that can be sold or made into things that can be sold for good prices.

04. Plant crops of different heights to capture all the light and intercrop different plants that like growing together to protect the soil and help conserve soil moisture.

05. Plant many different types of crops to reduce the risk that weather, pests or diseases will damage everything. With luck some crops will survive to provide food for families.

06. Plant specific herbs and plants that keep away pests.

07. Plant crops that produce well even when the weather is bad.
What types of people does this activity suit?

- Gardens suit individuals, households or extended families working together.
- Gardens activities can be started with existing or new community groups; women, men’s groups or school or health facility support groups, but working in groups needs careful management and agreement.
- Gardens can particularly benefit those who need extra nutritious foods like pregnant and breastfeeding women, infants and children, the elderly or people with chronic illnesses and HIV/AIDS.

How to adapt gardens to different environments and contexts?

- Drought prone, mixed agriculture & livestock – small gardens close to home help people to work intensively to keep crops well looked-after even when the rains do not come.
- Drought prone mostly livestock – can still be suitable but the garden will need to be protected from animals.
- Flood & cyclone prone – can still be suitable but people will need to decide which plants will survive floods and high winds (such as tree crops), or select crops that can grow back quickly.
- Insecurity or post conflict – can still be suitable and may help people produce food closer to home where it can be safer.
- Rural or urban - even urban homes can sometimes find room for small containers or sacks. Some people put them on the roof to hold down the roofing sheets!
- Mobile populations – gardens can still be suitable for refugees, displaced or nomadic people, as some plants grow very quickly and sometimes people end up staying much longer than they intended.

Preparations

Timing tips

✓ Try to start the Garden activity at times of the day or at times of the year that are less busy for the specific group of people you are targeting. It is worth starting well before the planting season, so that you can prepare the plot or container in advance and start gathering resources, making composts and mulches to add fertility to the soil (section 2 has useful advice on compost and section 4 describes how to make homemade fertilisers).

✓ You can start a garden at any time of year. If gardens are watered, they can grow even in the dry season and outside of the usual planting season. Gardens can improve nutrition in seasons when not much food is available.

✓ Some plants take only four weeks to give food. A garden can usually produce food in three months, but try to keep it going as long as possible.
What does the volunteer need to do before the activity can start?

1. Follow the advice in the ‘Essential guidance’ of the Introduction and refer to the ‘Resources and skills needed’ at the end of this section.

2. Ask people or hold a meeting in the community to see if people think this garden idea is a good one and to see who is interested to be involved.

3. Ask people if they would rather work as individuals or in a group. Sometimes helping one another can make it easier and more fun. But sharing work needs to be managed and agreed by everyone.

4. Ask people to identify places where they think small gardens could be located. Will any permission be needed to garden there? If people cannot think of a space to grow things, do people think that they could find old containers or sacks that they could fill with soil to grow things in? Some people put containers on their roof to grow things (make sure they aren’t too heavy though!).

5. If people cannot use land of their own, is there communal land or other land that may be available that people can grow things on (and perhaps share any rental costs)?

6. Gain agreement or permissions with any landowners or landowners, authorities, community leaders, or other family and community members.

How to avoid risks

It is important to discuss risks before you start the activity:

- Discuss what are the most likely things that could go wrong.
- What ways can people think of to avoid these risks?
- If floods or droughts occur, can you avoid flooded drought prone areas, or grow drought tolerant trees, shrubs or crops (such as root-vegetables like carrots, potatoes or beets, or pulses, beans, garlic, onion, shallots and herbs)?
- Can you avoid water shortages by adding manure or crop wastes and mulches to the soil or shade the plants (see Section 2 ‘Compost’)?
- If strong winds are a problem, can you plant tree or shrub hedges to act as barriers? Are there crops that grow very quickly (onions, chilli, tomatoes, potatoes or paw paw/papaya etc.) that can be planted and can produce food or income more quickly after a disaster or flood or cyclone?
- Can you capture rain when it does fall to use when droughts occur (e.g. in containers, tanks or by digging depressions in the ground in places where water runs off. See ideas in ‘Water harvesting and Conservation’).
How to implement the activity?

**Step 1** Organise a meeting

**Step 2** Squeeze in your gardens anywhere and everywhere!

**Step 3** Dig over the soil lightly

**Step 4** Advise people about planting lots of different crops to reduce their risks

**Step 5** Advise people to plant the most nutritious foods

**Step 6** Advise people about water conservation

**Step 7** Encourage shading & seedling nursery areas

**Step 8** Encourage composting, mulching and manures
Step 1: Organise a meeting

Organise a meeting to discuss some of these ideas with people, and listen to what they say. You may need to discuss these over several meetings:

- Gardens can grow in very small places around the home (in old containers or sacks on the ground or on roofs, in a yard, close to a washing area, near a school or clinic).
- Some basic tools will be needed – can they be made, borrowed or purchased by people slowly saving money and sharing the cost so everyone can share in using the tools?
- Seeds will be needed – can people gather and share seeds or can people get together to share buying a few seeds to start with? Can people ask the government extension officer for advice and help getting seeds? Always try and buy seeds hat, when they are grown, will give you more seeds to use next season.
- People can choose to grow foods that are extra nutritious (see section 9 Nutrition Awareness) or foods or other items that can be sold or made into other things that can be sold for good prices.
- People can choose to grow foods and produce goods that will withstand difficult conditions (such as droughts, floods, high winds, high or low temperatures) and/or foods that can grow quickly after a shock or disaster.
- Do people have ideas or know of anybody who may have good ideas that they think can work? Sometimes older people know things from the past that might work well.
- Lead or model farmers – is there anyone in the community who is already good at growing foods in gardens? Would they be willing to advise people? Can you encourage government extension services to advise people? See Section 6 ‘Lead Farmers and Demonstration Farming’ for ways to share good ideas.

If you are using old containers or sacks for your garden, then remember to make drainage holes in the base.
- Water will be needed – but people can use leftover water from the home.
- Good soil will help – see Section 2 on ‘Compost’ and Section 4 on ‘Homemade Liquid Fertilisers’ which will give you ideas of how you can help improve the soil.
- Discuss what to grow – what grows well? What survives difficult weather? What is most nutritious? What sells well or gets a high price at market (chilli, onion, herbs, spices, flowers etc.)? What fruits, shrubs or trees might grow? What will produce quickly (chilli, tomatoes, potatoes)? Can you grow things one after another in succession throughout all the seasons?
- What pests and diseases are common and who can advise how to avoid or overcome the problem? The ‘Essential guidance’ in the Introduction gives advice on ‘linking to other service providers’ and will give you some ideas on this. Usually removing the pests by hand is easy, or covering the plants with protective cloths at key times.

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**Step 2: Squeeze in your gardens anywhere and everywhere!**

Decide where to position gardens. If people do not have access to land, then advise them to gather together old containers or sacks (making small drainage holes in the bottom) or build something that will hold the soil. These can be small areas or you could try building a ‘key-hole garden’ (see photos) and fill with crop or food waste, manure, old bones, urine or ash from fires and then a layer of soil on top (these will add goodness and turn into soil eventually).
Step 3: Dig over the soil lightly

Dig over the soil lightly and add ash or old manure mixed with urine (yes, human or animal urine is a good fertiliser!). Digging the soil as little as possible will reduce the amount of water that it lost from the soil. This will also maintain the structure of the soil so that it will erode less when heavy rains fall.

Step 4: Advise people about planting lots of different crops to reduce their risks

Advise people to plant small numbers of lots of different types of crops to start with, so that they can start to see which types grow best and which they like. Growing lots of different plants, trees and shrubs helps reduce the risk of losing crops to pests and diseases or bad weather conditions. Encourage people to share seeds and try new things. They may choose to plant things that they can sell or make into something that they can sell.

Step 5: Advise people to plant the most nutritious foods

There is lots of detailed information on “Nutritional Awareness” in section 9 but in general try to encourage people to:

- Grow a wide mix of fruits, vegetables, roots, tubers and nuts and seeds.
- Grow orange, yellow, red and green vegetables such as carrots, peppers, tomatoes, and red and orange sweet potatoes and pumpkins. Fresh green leafy vegetables such as spinach, broccoli, watercress and cabbage are nutritious too.
- Grow orange, yellow, red and green fruits such as oranges, mangoes, papayas, bananas, pineapples, apples, strawberries, guavas, avocados, etc.
- Grow pulses such as dried beans, peas and lentils, etc.
Step 6: Advise people about water conservation

- Advise on watering the garden – the best time to water is in the evening when the sun is going down or first thing in the morning. This gives the water time to soak down into the soil before the sun gets a chance to burn it all off!
- Use leftover water from the house. Water used for washing the family, clothes or cooking pots etc, can be used on gardens. But be careful, if the water is very dirty or full of soap or chemicals, you should try to make sure it is not used directly on the parts of the plants that will be eaten, such as the leaves of lettuce, spinach or other greens like cabbage or skins of cucumber or tomatoes. It is worth having some fruit trees or fodder plants, where you can use very dirty water on the soil without worrying about any damage the very dirty water may cause. Some people plant papaya/pawpaw, banana or other trees and fodder crops close to where people wash themselves and get great and perfectly healthy crops to eat.
- It is best to apply the water as directly to the soil as possible (especially if it is leftover water from the house). You can advise people to make their own watering can by making holes in the bottom of an old container or attach a pipe to an old bucket/container. You can bury a porous clay pot, or a plastic bottle with small holes, into the ground close to crops - when the pot or bottle is filled with water, it will irrigate the plants (see the picture below). Section 7 gives lots of ideas for ‘Water Harvesting’ and soil and water conservation.

![Bury a container or pot that is porous or has holes to water plants in your gardens.](image)

- Protect the garden from animals and birds - with a barrier, fence, thorny branches or planting a hedge (the spikier the better!). Some people use reflective/shiny things or scare birds by making a rattle that will make a loud noise when shaken or blown by the wind.
Step 7: Encourage shading and seedling nursery areas

You can find lots more detail on this in Section 3 on “Shaded seedling nurseries”.

1. Select a shady place or container with good soil which can be well protected and is close by. It should be easy to keep an eye on, for regular care and watering.

2. Shade seedlings so they need less watering and are not over-watered.

3. Use this nursery area to plant seeds very close together and look after them carefully. With regular watering, the nursery can help get seedlings started early, ready for planting in a bigger area when the rains are more certain.

4. Encourage people to always save a few seedlings, just in case the rains do fail, and people will then still be able to plant a few seedlings later.

Build a simple low cost shade nursery.

Step 8: Encourage composting, mulching and manures

Section 2 provides lots of detailed information on how to produce compost. The activities in section 2 will show you how to use mixtures of easily available local natural materials such as harvest leftovers, crop remains, waste from farming, animal and human waste or kitchen remains mixed with ash to produce nutrient rich soils, so that you can increase the size and amounts of the food and crops that you grow. Composts can help crops tolerate droughts by making the soil more able to hold water for plants for a longer time.

Volunteers demonstrating a simple compost structure.
Things to watch out for

⚠️ If working in groups and sharing resources, disagreements can occur. Discuss some of these matters at the beginning and try to write down what you agree. What will people do about:

- How work and crops will be shared?
- People who do not contribute as much as others?
- People who do not share what is produced equally?
- Tools that are broken, lost or stolen?
- Animals that damage the garden?
- Other problems?

⚠️ When people are ill or at clinics, their waste water can spread disease. Only use this waste water on fodder crops or at the vase of tree crops.

⚠️ If you are storing water, always try to keep it covered or it will encourage mosquitos which can spread disease!

⚠️ Costs of fencing and tools can discourage people from starting a garden, so try to find alternatives (use thorny branches and make tools from discarded materials or share tools between people).

⚠️ Don’t forget to make drainage holes in bags and containers. Layer them with stones to start with, then put crop waste, manure and ash before topping with soil.

Build your own fences to protect your garden.
Top tips

✓ Encourage people to start small and increase the garden size slowly or they may get overwhelmed.

✓ Try to keep costs low by encouraging people to make use of the things they already have and share resources. Activities with high set-up costs can discourage the poorest people, and investing people’s precious savings in resources may increase their risks.

✓ Always try to buy seeds that when grown will produce seeds you can keep using from year to year. Try to learn which crops give seeds that are less effective from year to year.

✓ Planting in rows across the slope rather than up and down the slope will help trap rain water to soak into the soil rather than run down and erode the soil.

✓ Encourage people to share their ideas with others and neighbouring communities.

✓ Watering directly onto the soil either at the very end or very beginning of the day will help save water and use it most efficiently.

✓ Try to add goodness back to the soil by composting all crop waste and mixing with manures, ash and urine urine. Add compost to the soil when it has been kept for a while (see section 2 on composting).

✓ Get advice from extension officers and agricultural merchants. They may be willing to give you some seed samples to try.

Watering at the end of the day is more efficient.
Other ideas linked to this activity

- Encouraging people to plant more diverse crops to increase the diversity of nutrition for health; reduce the risk of pest or disease attacks or losing all the crop due to bad weather; roots access different parts of the soil and some crops grow low and others climb up to maximise use of the light.

- Demonstrating how to cook, process, preserve or sell different crops to generate income (see Section 10 on ‘Reducing Fuel Needed for Cooking’). If everyone grows the same, disease and pest risks are higher and people find it hard to get a good price for produce. Growing lots of different things or crops that are not commonly grown can help you get a good price.

- Demonstrating garden ideas at schools, prisons or health clinics and encouraging the institutions to purchase the produce from the gardens.

- Keyhole gardens - a structure is built to raise crops off the ground. This can help keep animals and poultry away and reduce erosion from runoff and damage from floods. It also gives the plants access to deeper soil and helps people concentrate care, water and fertiliser resources on the garden plot. The raised plot can help older or people with disabilities reach the garden.

A keyhole garden can be made of any old materials, sticks and stones.
Links to other sections in this handbook

This activity links well to the other activities in this handbook:

Section 2
Compost

Section 3
Shaded Seedling Nurseries

Section 4
Homemade Liquid Fertilisers

Section 6
Lead Farmers and Demonstration Farming

Section 7
Water Harvesting and Conservation

Section 9
Nutrition Awareness
What resources are needed to run the activity?

Simple tools, soil or land, or old containers or sacks, seeds, water (clean water or collected from roof, leftover from use in the home), time and effort.

Optional:
- Occasional meeting space.
- Record keeping book (list members, record any payments for shared seed or tool purchase, etc.)
- Organise advice sessions or trainings from experienced gardeners or extension workers.
- Fertilisers and pesticides, or make your own from crop or food waste, ash, manure and urine (see Section 4 on ‘Homemade Liquid Fertilisers’).

Are there any resources that are critical?

To start this project participants will need to have access to a few key resources. If people do not have access to land, then they will need to be able to get access to some soil and collect old containers, sacks or bags.

Basic tools will be needed, but they can be shared or many can be made by hand from waste materials. Seeds will be needed, but sometimes people will be willing to share small amounts of seeds or people can get together to buy small amounts of seeds to share together (which makes them cheaper).

What needs to be monitored or followed-up?

Monitoring is optional, but gardening groups who use the same land and share resources and produce may decide to record time worked to help share out produce fairly.
### Approximate costs

Garden activities can cost as little or as much as you have or want to invest. If you use leftover materials for fencing and containers and share and make your own tools then you can keep costs low.

A Swaziland Red Cross garden activity spent about USD$200 for fully equipping and fencing a large 10x10m garden with a rake, fork, watering can, metal drum for water storage and seedlings of 6 vegetables.

### What skills or knowledge do volunteers need?

- No specialist knowledge is required by volunteers for gardening, but the confidence to ask successful gardeners or government extension officers for advice is useful. Can you persuade them to join you in running or supporting the activity?
- Some people in the community will already be good growers and can be asked to provide advice. If not, government extension officers or neighbouring community based or other NGO (non-government organisations) or international agencies may be able to provide advice and support.

### What skills do participants need?

No specialist knowledge needed. People will get advice from the volunteer and learn together and teach each other.

Gardens may need physical capacity to set up, but less effort to keep running. If people with low levels of physical capacity want to be involved, perhaps they can have help from friends or family members at key times, or perhaps they can do some other tasks, that can be equally important (keeping animals and birds away, planting, picking or removing pests).
“Making compost to improve your soil’s fertility doesn’t have to cost anything. It just needs waste materials and water from the home and a little effort.”

Photo: West Africa, 2017 © Gouba, A. and ECHO West Africa Staff
Compost

Compost uses easily available local natural materials such as kitchen and harvest leftovers, crop remains, weeds from farming, and animal dung and urine. All these can produce nutrient-rich soils to fertilise your gardens and fields, which can increase the size and amounts of the crops that you grow. Compost can help crops tolerate droughts because they increase moisture in the soils.

What does the activity look like?

Composting makes free fertiliser for your soil! People can slowly gather organic waste materials (such as kitchen, animal and farm waste) in piles, simple structures, pits, or any old containers. Composting breaks-down organic waste materials to help produce new soil that is rich in nutrients and is good at holding water. Adding compost to soil improves the soil.

This breaking down of materials is done by worms, insects and other very small micro-organisms (or living things that occur in nature). These friendly bugs and insects help break down materials and turns them into fertiliser and nutrients for plants to use.

The easiest way to make compost is by just piling up material on the ground, but any cheap and simple structure or old container can be used. They all work well!
What are the main benefits?

Compost adds nutrients and fertiliser to the soil.

It helps produce high crop yields and more food for the family.

The only cost to make compost is a little time and effort.

It keeps water in the soil for longer, so it is available to plants and can help them survive for longer without rain.

It makes use of organic waste materials that may not be used otherwise, such as crop remains, kitchen leftovers, animal dung and urine, hair, leftover ash from the fire, or water from the household.
Preparations

Timing tips

✓ Compost will take a minimum of 3-6 months from the build-up of materials and break down until you have usable compost. It may take up to a year of advice and support from the volunteer before people become confident compost makers!

✓ Compost making is best started around harvest time when there are more crop residues (stalks, seed pods, stems, leaves, etc.) available.

What does the volunteer need to do before the activity can start?

1. Contact local or regional ministry of agriculture or livestock departments, or their extension officers. They may have trainers and experiences they can share.

2. Find out what people currently do with agricultural, household, natural and organic waste and what waste is available in the area. Composting will only work if people have enough waste products to be added to the compost.

3. Select the best method(s) for making compost from the options provided below – and discuss this with experienced people.

4. Identify potential options for where to locate compost piles and whether composting is best done by individuals, households, or as a community.

5. The volunteer should start to collect organic waste and materials, to show people how to build simple structures and what types of old containers they could use. This will help them to carry out the training.

6. Participants should be encouraged to start collecting ash, animal dung, and farm and kitchen waste, to start to use when they are ready.

How to avoid risks

- Only natural, organic materials can be used to make compost. Plastics, including bags and pieces of plastic, will not break down and may even contaminate the compost. Many types of paper, cloth, and card are covered with paints or dyes or made of artificial fibres which are also not safe or suitable to use in compost.

- Ensure that the composting takes place in a safe location, where it won’t contaminate, won’t contaminate any food or drinking water and is far enough away from any food stores. Compost piles can attract rodents and other animals that endanger food stores!

- Be careful that the compost area drains well so that it does not collect any stagnant water and become a breeding ground for mosquitoes. Check for stagnant water after heavy rains. Try to turn the compost regularly - this lets in air that will speed up the breakdown process.
How to implement the activity?

**Step 1**  Talk to people about composting and how it can improve their soil

**Step 2**  Discuss what type and size of compost system each person wants to use

**Step 3**  Talk to people about the things to consider when deciding where to position their compost system

**Step 4**  Explain what materials can be used in composting

**Step 5**  Explain how useful urine is in composting and as a liquid fertiliser

**Step 6**  Explain what materials should not be added to the compost

**Step 7**  Talk to people about keeping the compost damp, adding earthworms and chopping, mixing and layering materials

**Step 8**  Explain when the compost is ready and how to use it
**Step 1: Talk to people about composting and how it can improve their soil**

Use the information in the sections above to explain what is involved in composting and how it can help people improve their soil.

**Key messages:**
- Cut larger piece of waste into small ones to help them decompose quickly – for instance chop up pieces of wood or tear up large cardboard boxes into small pieces.
- Make sure the compost pile is far away from any food stores, areas where food is prepared or drinking water sources.
- DO NOT throw any plastic, rubber, metal, tin, things covered with paint or any chemicals into the compost pile!

**Step 2: Discuss what type and size of compost system each person wants to use**

People can choose what suits them and their location best.

There are different compost systems: in piles, well drained pits or containers, simple structures or boxes, open or closed:

**Different ways of making compost:**
- The easiest way to make compost is just by **piling up material** on the ground. This method is most suitable for areas with good rainfall.
- Other people do it by **digging a hole or pit** in the ground. The pit method of making compost conserves moisture, so it is useful in areas with low rainfall and a long dry season. Do not use a pit in wet areas unless you are sure it will drain, otherwise as the compost may become waterlogged and become a breeding ground for mosquitos.

- Some people prefer to build a **cheap and simple structure** from any old materials to hold the compost:

![Compost corner.](Photo: 2020 © S. Truelove)

- Some farmers construct a compost pile between trees. Fast growing fruit trees like papaya or paw paw make very good posts and shade for a compost pile and the fruits grow very big because of the fertile soil.

![You can start a compost pile between trees – you will find you get extra large fruits!](Photo: 2020 © J. Zaremba)
- Others use any size or type of container that they can find. But remember to make some holes for drainage.

Fill any old containers with soil and compost but remember to make drainage holes in the base.

Use existing, local methods and ideas wherever you can – and adapt them. The more familiar the materials, the more likely it is that people will use them themselves.

Step 3: Talk to people about the things to consider when deciding where to position their compost system

- Try to choose a place that is in shade most of the time, so the compost doesn’t dry out. The friendly bugs and insects like it moist. You can add extra water or leftover wastewater from the household.
- Keep it as near to their farming plots as possible, so they do not have to carry the compost far.
- Place it near to where they gather crop residues or animal waste and urine.
- Keep the compost pile far enough from people’s houses so that any smells and flies do not bother them too much.
- It is good to try to keep your compost pile close enough to the house so that adding kitchen and household materials and leftover wastewater to the compost is easy.
- It is also good to keep the compost close by so you can keep an eye on it! Compost can be quite valuable!
- Keep the compost pile away from anywhere that food or seeds are stored, as the compost can encourage rodents.

Once people have decided what type of compost system to use and where to position theirs, they can start to gather and construct their compost pile.

The soil underneath your compost area will become very rich in nutrients afterwards! So, you can rotate the location of the compost after a year or two. Some people plant some vegetables or fruit trees (such as banana or papaya) close to the compost pile. Pumpkin plants make a great shade cover over the compost! You’ll be amazed how big the fruits and vegetables will become!
Step 4: Explain what materials can be used in composting

Almost any natural materials, such as garden or harvest leftovers, kitchen waste, ash, urine and manure can be used.

What to add to your compost?
The vast majority of organic materials are compostable:

- **Crop residues/leftovers/remains** from the harvest, orchard or garden plants. Crushed or chopped smaller branches from pruning, trees and shrub leaves. Hay and mown grass (preferably pre-dried in layers). Small weeds that don’t grow much can be added, but do not use weeds that grow fast and spread - they might take root in your compost! You can bake weeds on a sheet of metal laid in the sun - when the weeds are dried and crisp, they will not harm your compost.

- **Almost any animal or poultry waste, manure, urine or animal bedding materials can be used.** The bedding materials absorb the urine and are a good source of nutrients for the soil. Dung waste from cattle, goats, sheep, horses, pigs, chickens, ducks and rabbits is good but do not use dung from cats, dogs, or people, because these cause disease and illness.

- **Urine** from animals or humans is clean and sterile and is great for your compost.

- **Ash** from the fire is excellent for your compost! Leftover residues from charcoal production are also good.

- **Waste from the kitchen**, including raw fruit and vegetable skins, bones, egg shells (crushed), coffee grounds and tea leaves.

- **Old food oil and fat** (evenly spread and in small quantities).

- **Soil!** Mixing small amounts of good soil into the compost pile gives it some of the essential friendly bugs, insects and micro-organisms to get started quickly.

- **Wood shavings** (add in thin layers).

- **Wastepaper and cardboard** (not printed or coloured as this has plastics and chemicals).

- **Human or animal hair** or poultry feathers.

- **Waste from agricultural and food industries** (e.g. breweries). It’s important to talk to the business to find out what is in the waste. They may need some assistance or training from you to help them to make sure they provide the right sort of waste materials for composting.
Step 5: Explain how useful urine is in composting and as a liquid fertiliser

Use urine on compost or directly onto the soil:
Animal urine makes a perfect quick fertiliser when mixed and diluted with water. You can use it on the compost or alternatively apply directly to the soil. You can use human urine too, if you wish, but some people prefer not to.

Don’t let urine go to waste! Don’t worry - it’s clean and sterile.

Photo: India © S. Truelove/innocent foundation

This family in India constructed a compacted hard floor to collect urine from their animals.

Step 6: Explain what materials should not be added to the compost

No poisonous, toxic or harmful materials should be included:
× Chemical-synthetic materials such as adhesives, solvents, petrol, lubricants and paints.
× Engine oils.
× Non-degradable materials that will not break down (glass, metals, plastics).
× Fibreboard or plywood.
× Tobacco, since it contains nicotine and other toxic substances.
× Strong soaps, detergents, chlorinated products, antibiotics, drugs or medicines.
× Any harmful fast-growing weeds or weeds that are hard to get rid of.
× Any farm or animal waste that is likely to be contaminated by pests or disease.
× Eucalyptus and cassia tree leaves or any plant material you think may poisonous to the friendly bugs, insects and living micro-organisms in the compost.
× Carcasses, meat and animal fat because these encourage rats. These should be burned or buried.
× Cooked food leftovers and meats because these encourage rats.
Step 7: Talk to people about keeping the compost damp, adding earthworms and chopping, mixing and layering materials

Top tips on mixing materials in the compost:
✓ The best advice is to have a good mixture of materials, not too much of just one thing.

Almost any organic material can be used for composting as long as it does not have strong chemicals or plastics.

✓ Paper and cardboard waste is good for attracting earthworms and absorbing water.
✓ If you have a lot of dry materials like dried crop residues, that can be low in nutrients, it will break down quicker if it is chopped up before it is added to the compost. Not essential, but it helps. Mix it with other moister materials such as animal waste, dung or urine and kitchen waste.
✓ Collecting urine and dung is easier if livestock are housed (see the picture below).

Materials to mix in the compost:
- Any crop residues or vegetation
- Animal or poultry waste, manure, urine or animal bedding
- Ash
- Kitchen waste
- Wood shavings
- Waste paper and cardboard
- Organic waste from agricultural, food or brewing industries

Animal housing makes dung and urine collection easier and the shade increases milk yields.
- The friendly bugs, flies and insects that break down the waste materials enjoy damp, quite wet conditions. You can add clean or leftover household wastewater between the layers as you build up the pile and then keep the compost damp. Try not to let it dry out ever, or the micro-organisms that breakdown the materials will be damaged. Keep the compost uncovered in the rainy season (unless the rainfall is so heavy it may wash the compost away!). Encourage people to use anything they can to cover the compost in the dry season. This will help to keep the water in. You can use layers of leaves, crop residues, grass cuttings or an old blanket, tarpaulin or sheet of cardboard, or construct a simple cover or roof. You can even cover the compost with a layer of poor-quality soil. Keeping the compost covered and away from a windy place will reduce the need to add water.

- Try to add air by turning over and mixing the compost regularly.
- If you can, turn over the compost every month or so as it will speed up the breakdown of the material. But if people don’t have time it is still ok, the compost will just take a little longer to be ready. Not everyone has the spare time or muscles!
- Adding earthworms to the compost speeds up the breakdown of the materials and improves the soil’s ability to hold water. You can add earthworms anytime from about a month after you start composting. Any type of earthworm will do!
Section 2: Compost

Step 8: Explain when the compost is ready and how to use it

People can keep adding materials to the compost whenever they have material available. The compost can be ready to use after about 2 to 3 months. Sometimes it may take longer. Adding animal dung and/or urine mixed with water is the best way to speed up the breakdown from waste into fertile soil. Once the compost has broken down, it can be added to the soil of your garden or fields. When it's ready for use it will smell like soil and not like manure. Take off any top layer of material that has not broken down and use this material to start a new compost area. Then you may add the well composted materials to your soil wherever you need it. A wheelbarrow is very helpful for this, but sacks can also be used.

How much compost to use and how to apply it?

It is important to encourage people to think about when and how to add compost to the soil, based on their plot. Ask them to think about how steep it is, and how likely is it that heavy rainfall might wash away the compost. If people have steep plots and heavy rainfall, then it is better to dig the compost into the soil a long time before the rains arrive, so it can enrich the soil before planting and is less likely to be washed off the steep surface by rainfall run-off.

The aim is to put the fertile compost as close as possible to the roots of the plant.

With these ideas in mind, there are lots of different ways of applying the compost:

If the compost is old, well broken down and decomposed:

1. Add the compost directly into the planting hole or container where you are planting seeds or seedlings.

2. Add the broken-down compost to a seedling nursery, so the nutrition can help seeds and young plants get a good start. Don’t use compost that is too strong and powerful on seeds and seedlings or it can burn the young plants. See Section 3 on ‘Shaded Seed Nurseries’ for more detailed information.
If the compost is young, not very well broken down or decomposed:

1. Instead of letting the compost break down fully in the composter, you can bury the semi broken down material in trenches or in holes next to the plants. There, it can be a fertiliser. Just be careful that it does not directly touch seeds, seedlings, or the roots of young plants because it is still not fully broken down.

2. **Dig the compost into the soil.** This is easiest to do anytime between harvest and planting times.

3. **Or, apply as a ‘mulch’, which is a thin layer of compost over the surface of the soil** that is to be planted. The next section explains the different mulches.

**How much to apply:**
Compost can be applied at the rate of: one large bucket full per 1m by 1m square, or enough to thinly cover the soil with a layer of 1cm (0.4inch) thick compost. This works out at about 1 wheelbarrow of compost for every 3 meters by 3-meter square patch of land.
Mulches

A mulch is a layer of natural material applied to the surface of soil that can:
- Reduce the loss of water from the soil.
- Add nutrients, fertility and health to the soil.
- Protect the soil surface from damage or from erosion by rainfall or running water.
- Reduce weed growth.

Where the land is steep, where rainfall is heavy, or where floods are frequent, you can advise people to think about whether it would be better to dig the valuable compost or organic mulch layer into the ground before any water comes and washes it away.

The materials people can use for mulch layers are almost the same as for composting. Here are some examples:

- Leaves
- Pine needles
- Straw
- Crop residues
- Nut shells
- Wood shavings
- Sawdust
- Organic waste materials from food and drinks and agro-industry
- Coconut shell or fibre
- Stones
- Rocks
- Pebbles
- Gravel
- Newspaper
- Cardboard
- Almost anything that doesn’t contain poisons or strong chemicals
Things to watch out for

⚠️ Try to protect your compost and stop chickens from stealing all the worms with some sort of homemade fence or barrier.

⚠️ Advise people to only put natural materials in the compost, not plastics or metals.

⚠️ The sun dries out compost. Keep it in the shade and covered if possible.

⚠️ Households with animals will usually want to feed crop residues to their animals. These households should be encouraged to continue doing so, but to collect any leftovers the animals leave and as much animal dung, urine and used bedding as possible. They may find this easier to do if they can keep their animals in a confined space during the night and capture urine by digging channels that collect urine in depressions/pits or containers.
Section 2: Compost

A compost pile can be made under the shade of a tree and covered with wide leaves or straw in order to protect the pile from high winds.

After the rains stop, keep the pile covered and check regularly to make sure it does not dry out or get too hot, which would damage the micro-organisms.

Top tips

Points to remember when making compost in a pile

- It is good to make a pile in the rainy season, when there is plenty of green plant waste, getting water is easy, the materials are naturally wet, and there is plenty of water available.

- Compost should be in a place where it can be protected and covered in the dry season, and protected from heavy rains or flooding in the rainy season when it may be washed away.

“Compost is like gold for your garden and crops. It is free and the nutrients it provides will help your vegetables grow and mature successfully.”

Photo: Haiti, 2013 © IFRC Livelihood Resource Centre

This group has protected the base of the compost pile from rain and floods with rocks.

- A compost pile can be made under the shade of a tree and covered with wide leaves or straw in order to protect the pile from high winds.

- After the rains stop, keep the pile covered and check regularly to make sure it does not dry out or get too hot, which would damage the micro-organisms.
Points to remember when making compost in a pit

- Compost in a pit works well where there is little rain. It is the best way to make compost after the rains have finished and during the dry season.

- Prepare and dig the pit, or better still, dig three pits, when the land is moist and easier to dig, or when there is a gap between other farming activities.

- If possible, make the compost immediately at the end of the rainy season while there are plenty of green and moist plant materials.

- In the dry season, make the pit near a place where water can be added, e.g. next to the home compound where wastewater and urine can be thrown on the compost materials, or near a water point, e.g. a pond, or near a stream where animals come to drink.

- Mark the place of the pit with a ring of stones or a small fence so people and animals do not fall into it accidentally.

Compost in a pit:
- Good in places with little rain
- Prepare and dig the pits when the land is moist
- Make compost at the end of the rainy season, or near water
- Mark the pit with a ring of stones or fence
Links to other sections in this handbook

This activity links well to the other activities in this handbook:

- Section 1: Gardens
- Section 3: Shaded Seedling Nurseries
- Section 4: Homemade Liquid Fertilisers
- Section 5: Improving Farming Practices
- Section 6: Lead Farmers and Demonstration Farming
- Section 7: Water Harvesting and Conservation
Resources and skills needed

What resources are needed to run the activity?

- People will need some spare time to be involved, but the work does not require great skill or high levels of physical effort. Building a simple structure can take as little or as much effort, resources or capacity as people wish. Collecting waste and turning over the compost then involves regular amounts of small physical effort.
- Small area of land or space for a compost pile or container.
- Collect material for building any structure or container.
- Gather organic waste materials and collect earthworms to add to your compost.
- Other tools that are useful, but not essential, include a tool to dig and turn over the compost, a knife or machete to chop materials, a container to collect urine and pour water onto the compost, and some material to cover the compost.

Approximate costs

Compost can be produced little cost or no cost at all, but some of the tools might need to be purchased or made. It does involve small amounts of time and effort.
“Our seedling nursery is close to our home where we can take good care of the young crops until the rains have begun properly. We can get our crops going earlier to make the most of the shorter rains we have been suffering.”

Women farmers in Uganda

Photo: © J. Zaremba
Section three

Seedling Nurseries

Strong seedlings increase the yield. You can plant seedlings very close together in small shaded plots. Give seedlings careful protection, watering and fertile soil conditions, to help them get strong until they are ready for permanent planting when the rains arrive.

What does the activity look like?

A small patch of ground or containers planted with seeds and protected from strong winds, heavy rains, birds, animals and strong sunshine, with a simple hand-made framework or sticks and covered with crop residues (stalks, leaves, etc.) or other materials.

Keep the seedling nursery watered and well shaded.
What are the main benefits?

Shaded Seedling Nurseries are very quick and easy to start and have lots of advantages for crops and people:

- **Concentrating care** - seedling nurseries help people to concentrate resources such as water, nutrient rich soil, compost and fertilisers at the most important time of plant growth.

- **Shading vulnerable seedlings** reduces water stress (not enough water) and reduces the amount of rainwater and watering needed to give the plants a good start in life.

- **Protection** - getting seeds and seedlings started in a safe place means the seedlings can be kept away from mice, rats, poultry, birds and animals, and people can watch carefully for any signs of pests and diseases. Plots close to the home are best.

- **By extending the harvesting season** (earlier and later) it can help people get better prices when they sell their harvest.

- **People can get harvests for a longer period** when they don’t plant all their seeds at the same time. This can help ensure crops when rainfall is late, varied or unpredictable. Waste is reduced when planting of seedlings is ‘staggered’. People then don’t end up with too much produce all ready for harvest at once.

- **Plant seedlings as early as possible**, because a small plot is easier to water. This allows planting of seeds well before the rains have fully started. Then transplant seedlings when you are certain that there is sufficient rain. This can help reduce crop failures caused by unpredictable rains.
Preparations

Timing tips

✔️ A shaded seedling nursery is a very quick and easy activity to start at any time of year. It all depends on the type and size of the shade people decide to use. If people start with a simple seedling nursery just made of sticks and covered with leaves or crop residues (stalks, stems, leaves, seed pods, etc.) or perhaps using a plot that is already shaded from the mid-day sun by trees or a fence, it may only take them an hour or two to construct!

✔️ The nursery will take a minimum of 2 weeks from the initial construction until some of the first seeds planted begin to grow. Construction can take longer if a more complicated structure is built.

✔️ It will still be useful to have ongoing support and advice from the volunteer for more than one year, to remind people about protecting the seedlings from poultry and and animals or floods, and to remind them about regular watering and adding compost and fertiliser to keep the seedling area productive. You can find more information in Section 2 ‘Compost’, Section 4 ‘Homemade Liquid Fertiliser’ and Section 7 ‘Water Harvesting and Conservation’.

What does the volunteer need to do before the activity can start?

The volunteer doesn’t really need to prepare very much for this activity. Just follow the ‘Essential guidance’ in the Introduction on selecting appropriate activities and who to target and calling meetings and mobilising groups.

How to avoid risks

This is a low risk activity, especially if you encourage people to keep the structures simple, protect the plot and water well.

Fences and nets can shade nurseries and help to keep off animals and poultry.

Photo: 2019 © J. Zaremba/British Red Cross
### How to implement the activity?

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Photo: India © S. Truelove/innocent foundation
Step 1: Select a small patch of ground, an old container or sack

Select a small patch of ground, or use an old container or sack and make sure it has:

- **Good soil** - or where the soil can be improved with compost or fertilisers (see Sections 2 and 4 on ‘Composting’ and ‘Homemade Liquid Fertilisers’)

- **Closeness to the home** - so people can keep an eye on the plot and water with wastewater from the home (see Section 1 ‘Gardens’)

- **Shade** – (see step 2 for more information)

- **A source of water** – (see Section 7 ‘Water Harvesting and Conservation’)

- **No risk of rainwater run-off or flooding** – if you think the plot is at risk, consider raising the plot and protecting the edges of the plot with logs, stones, rocks or other solid materials. Some people build a wooden or small brick wall around the plot:

Volunteers demonstrating how to use rocks to protect the base of the nursery.
Step 2: Shade the plot

Shading reduces the risk of water stress and need for watering. If there is not much natural shade, then encourage people to come up with ideas for how to shade the plot. Some people use old crop residues (stalks, leaves, seed pods, etc.) to lightly cover the seeds and seedlings, others build simple low-cost structures out of sticks.

Here is a drawing of a seedling nursery in a sack that is shaded beneath some trees.

Trees are a good way to shade a nursery. Nurseries in sacks help to keep chickens from damaging seeds and seedlings and are useful in urban areas.

There is no need to build anything complicated.

A frame made of a few thorn bush twigs covered in old crop residues, leaves or old material like the one below, will work just as well!

Simple structures can be made with freely available local materials.
**Step 3: Protect the plot!**

Encourage people to discuss what types of risks the seedling nursery may face and how they would prefer to deal with such problems (birds, poultry, mice, rats and ants are well known for stealing seeds and seedlings!). If the seeds or seedlings in the plot are at risk of damage by poultry, animals or children, then protect it with anything you can find (wire mesh over seeds, thorn bush twigs, stalks, stems, leaves, seed pods, sticks, waste materials or other fencing). Some people plant a thorny or dense hedge around their plots to protect from animals and strong winds. For any seeds that mice and rats like to steal such as beans and peas, you could try soaking the seeds in water until they start to sprout before you plant them or covering the planted area with a wire mesh or cloth until germination occurs.

This woman in Malawi has used a strong fence to keep animals and the wind off and an old mosquito net to protect from other pests and poultry and shade the plants from sunshine.

**Step 4: Prepare the soil and plant the seeds**

Prepare the soil by adding well-rotted compost or mulches (see Section 2) and liquid fertilisers (see Section 4). Use this nursery area to plant seeds very close together and look after them carefully. Regular watering the nursery will help get seedlings started early, ready for transplanting when the rains are more certain. Encourage people to experiment with:

- **Pre-soaking seeds in water** for a day or two before planting. This can help increase germination rates by 20 to 30% and helps to discourage mice and rats from stealing the seed.

- **Earlier planting** than usual with additional hand watering, to help get seedlings ready for transplanting once the rains start.

- **Staggering** the planting of seeds and transplanting of some seedlings, if people are not sure the rains have really started. Staggering also spreads out the time of harvest to avoid waste, and people can try to get better prices when selling the harvest at different times.

- **Keeping back a few seedlings**, just in case the rains do fail, and people will then still be able to plant a few later.

- **Thinning seedlings** – this is gently removing some seedlings if the seedlings start to get too crowded. But if water and fertiliser are adequate, seedlings can usually grow very close together without much long-term harm. People can always transplant the thinned-out seedlings to another plot or container or give or sell them to other people.
Step 5: Transplanting seedlings

When you think the rains have properly arrived, you should very gently remove seedlings and transplant them, following these instructions:

1. Firstly, water the seedlings in the nursery.

2. Remember to encourage people to always keep back some seedlings in the nursery, just in case the rains do fail.

3. Gently dig up a small amount of the soil in which the seedlings are rooted. Try to do as little damage to the fragile roots as possible.

4. Transfer the seedlings with the roots surrounded by soil into a tray, bucket or container to carry them to the transplanting site.

5. Keep the seedlings watered and shaded as much as possible as you transfer them.

6. Transplant the individual seedlings into damp soil and then water.

7. Place any fertiliser or well-rotted compost directly into the planting hole or trench if possible, so that the seedling roots can make most use of it. This also reduces the chance that heavy rainfall will wash the fertiliser or compost away.

8. If the days following transplanting are dry, then water the seedlings. Keep an eye on the seedlings and if they look dry or water stressed (limp), keep watering until they are growing well.

Step 6: Maintain the seedling nursery well

Weed the plot regularly and after harvesting add nutrient rich ash, dung and compost and fertilisers to keep the soil in good condition.
Step 7: Encourage people to diversify the range of seeds they plant

Once people are familiar with the process, volunteers could encourage people to consider planting seeds or crops they have not yet tried (see Section 1 on ‘Gardens’ and Section 9 on ‘Nutrition Awareness’). They might like to think about fruit trees, bushes, seedlings for fuelwood production or fodder crops for example.
Links to other sections in this handbook

This activity links well to the other activities in this handbook:

Section 1
Gardens

Section 2
Compost

Section 4
Homemade Liquid Fertilisers

Section 5
Improving Farming Practices

Section 6
Lead Farmers and Demonstration Farming

Section 7
Water Harvesting and Conservation
Resources and skills needed

What resources are needed to run the activity?

- Small area of land or space for a seedling sack or container.
- Other small tools are useful, but not essential, include a tool to dig and turn over soil.
- Seeds.
- People will need a minimum of half a day to listen to the messages from the volunteer. If they choose a simple structure, it can take as little as an hour to construct a simple shade, but it is worth spending time protecting the edges of the nursery from water run-off and floods and from poultry, birds and animals. Building a simple structure can take as little or as much effort, resources or capacity as people wish.
- Collect material for building any structure or container.
- Collect water or wastewater.
- It is worth encouraging people to invest in keeping the seedling nursery soil in good condition by adding nutrients regularly. This may involve buying fertiliser for use but making their own compost or liquid fertilisers is more sustainable (see sections 2 and 4).

Approximate costs

A shaded seedling nursery can be produced without much or any additional cost. It does involve small amounts of time and effort.
“Before I thought using fertiliser would cost me too much money. Now I make money out of selling all the extra vegetables I have grown using my free fertiliser and from selling my homemade liquid fertiliser to neighbouring villages!”

Farmer in Niger
Homemade Liquid Fertilisers

Simple ideas and recipes for how to make free organic fertiliser from locally available materials such as crop residues, animal bedding, dung, urine and other waste materials mixed with water. Organic liquid fertiliser improves the soil resulting in healthier plants and crop yields and does not harm the environment.

What does the activity look like?

This activity involves encouraging people to produce homemade liquid fertilisers by collecting and mixing organic waste materials with water and then using the liquid to improve the nutrients in the soil of their farms, gardens and compost piles.
Section 4: Homemade Liquid Fertilisers

What are the main benefits?

More fertile soil produces better yielding crops that can help feed people and their livestock and generate more income for families.

Liquid fertiliser is quick to make. By releasing nutrients, they improve the structure of the soil and increase its ability to hold water and nutrients. Over time, organic fertilisers will make your soil and plants healthy and strong.

Organic fertilisers release their goodness to the soil slowly over the growing season, unlike chemical fertilisers which need regular expensive applications to be effective and which are easily washed out by rainfall.

Good for insect control if farmers add some insect repellent leaves like deliya (Tinthonia diversifolia), nimu (Azadirachta indica), indya (Melia azedarach), tephrosia vegelii, French Marigold.
Section 4: Homemade Liquid Fertilisers

“I taught all my family and neighbours how to make the liquid fertiliser, so everyone is using it and the beans and vegetable harvest is much bigger now and we are selling more.”

Farmer in Niger

Key messages

Animal and poultry urine are very rich in the nutrients that soil, compost, crops and plants need. Here are some simple messages to encourage people to make homemade fertilisers:

01. Don’t let urine go to waste! It’s free and rich in essential nutrients needed by soil and plants. Don’t worry - urine is clean and sterile, and if kept well covered, does not smell.

02. Be clear that both animal and human urine is safe to use, but if people prefer not to use human urine, then animal or poultry urine is just as good. Both are free and easy to make, so don’t let urine and dung go to waste!

03. Like any fertiliser or strong chemicals - always store in a safe place away from children.

Label and keep fertiliser safely stored. Using organic liquid fertilizer produces better crops.
Preparations

This activity requires very little preparation other than what you can read in the Essential Guidance section of the Introduction.

Timing tips

The activity can be achieved at any time of year, but people may prefer to start during a time of year when they are less busy and have access to lots of the materials they need. The volunteer should encourage any people that want to take part to start gathering materials in advance.

How to implement the activity?

There are two main types of liquid fertilisers:

- Liquid urine fertiliser
- Liquid mixed fertiliser made from urine, dung and crop residues (leaves, stalks, seed pods, etc.)

Both liquid urine or mixed fertilisers can be used directly onto the soil or added to a compost pile (where it ‘feeds’ the compost so that materials break down much more quickly).

**Step 1** Collect poultry or animal bedding waste, dung and urine

**Step 2** Make homemade liquid urine fertiliser

**Step 3** Make homemade liquid mixed fertiliser from mixing urine, dung, vegetation materials and crop residues

**Step 4** Strain, dilute and apply the liquid fertiliser to the soil of plants
Step 1: Collect poultry or animal bedding waste, dung and urine

Collecting animal and poultry bedding waste, urine and dung is easier if poultry and livestock housing is adjusted. This usually involves keeping animals or poultry in a fenced off area or ‘kraal’, so that the dung accumulates where it can be gathered more easily. By adding waste crop residues, straw and other dry leafy materials to the animal compound either to feed the animals or as bedding, these soak up the urine from the animals and can be gathered for use in the fertiliser mixture. If the fenced off ‘kraal’ area contains lots of clay in the soil it can become compacted and a hard surface means that the urine runs off. When this occurs, some people dig small channels to direct the surface urine and rain run off down the slope towards a pit or container buried into the ground or even towards a compost pit (see Section 2 on ‘Compost’).

Raising animal and poultry housing also makes gathering dung and urine easier and has lots of other advantages including reducing common animal and poultry diseases.

Try to encourage people to think of their own ideas for easy ways to collect urine and animal waste.

Raising animal and poultry housing makes collecting dung and urine easier and had many other advantages such as reducing common diseases.
Step 2: Make homemade liquid urine fertiliser

There are two types of liquid fertiliser. Simple fertiliser made from water with urine, or mixed fertiliser made from water with urine as well as dung and crop residues

How to make homemade urine fertiliser

Mix 5:1 which is five parts water to one part urine. The mix can be used straight away, or it can be stored and used later. If you use household wastewater that has strong soap or cleaning chemicals in it, then it is best to keep the mixture covered for a few days before using it.

Always store homemade fertilisers covered (to reduce smells and insects) and in a safe place away from children.

How much urine fertiliser to use and how often?

Apply:
- Up to 1.5 litres of the urine & water mix fertiliser per a 1 metre by 1 metre square plot.
- If crops are planted very close together or multiple harvests are taken, then up to 6 litres or more of urine per year can be applied (per 1 metre by 1 metre square plot) without causing any damage.
- If the soil is poor, a higher dose may even be beneficial for feeding the plants.

Step 3: Make homemade liquid mixed fertiliser from mixing urine, dung, vegetation materials and crop residues

Chop up any dry material before adding to the mixture.
Add any of these materials into old containers or drums to make mixed liquid fertiliser:

- **Poultry or animal dung** (from any animals but not from cats, dogs or humans which can carry disease),
- **Ash** from fires or charcoal making
- **Vegetation materials and crop residues** – Any leaves, grasses, wood shavings, stalks, stems, leaves, seed pods, etc. can be used. You can even use weeds but avoid using weeds that grow quickly and spread. If people have a lot of vegetation materials, especially if it is dry, this can be low in nutrients and more difficult to break down quickly, so if people are able to, encourage them to chop up the materials before adding. Not essential, but it helps break down the materials more quickly.
- **Water and urine** - Follow the same 5 parts water to 1-part urine recipe for the urine fertiliser and pour enough of the mixture to fully cover the dung and crop residues. If you don’t have much urine, don’t worry, just add as much urine as you can find.
- **Cover the containers with a lid that allows air in and out**
- **Mix or stir regularly and leave the mixture to brew** for at least one month or as long as possible. Mixing or stirring regularly will increase the speed of decomposition. It takes different amounts of time to break down the different materials used at different temperatures, so it is not possible to say exactly how long it will take until the mixture is ready.

**A typical recipe for mixed liquid fertiliser**

There are no fixed rules about how much of the general materials listed above you should use, but here is a typical recipe:

Take any container (pot, bucket or drum) and add:

- 1 bucket of animal dung
- 3 buckets of leaves (preferably leguminous or nitrogenous leaves such as Tephrosia, Deliya, Sesbania, Binu, Gliricidia, Sienna, Acacia etc).
- 1 bucket of ash from fire or charcoal making (if you have it)
- 1 bucket of maize husks or other dry crop residues (if you have it)
- A small amount of local beer (like masese or masika) or 1 teaspoon yeast diluted in a 500 ml water bottle (all optional)
- Cover all of this with water or wastewater that has been added to urine mixed 5:1 (five parts water to one-part urine). If the water has chlorine or waterguard treatment or any strong shop-bought detergents in it, it is best to store the water in a covered container before using.
- **Always use a lid**, plastic sheet or sack to cover the fertiliser container. Make sure any lid allows the fertiliser to breathe! It needs air to flow in and the fertiliser will produce gases that will need to escape.
Step 4: Strain, dilute and apply the liquid fertiliser

Once the mixture is ready, strain the liquid. You can use the materials that have not yet broken down to start your next brew, or you could mix the materials into your compost pile (see Section 2 on ‘Compost’).

The liquid fertiliser is now a concentrated and very rich fertiliser so it must be diluted by adding water to it before it is used. The amount of water added is different depending on what people want to use the mixed liquid fertiliser for. Follow these guidelines;

- **For soil around mature crops** dilute 3 parts fertiliser to 7 parts water.
- **For adding to the soil for up to 2 weeks before planting** you can use stronger doses (such as half and half or one part fertiliser to one part water). Explain to people that seeds and seedlings have tender roots that strong fertilisers can damage.
- **For soil around seeds or young seedlings** dilute one part liquid fertiliser to 10 parts water.
- **For adding to compost** you can use urine or mixed fertilisers undiluted, but half and half water to fertiliser is recommended.

Follow these simple messages for applying the urine and mixed fertiliser;

- **Apply fertiliser to the soil, not directly onto plant leaves or roots.**
- **Importantly, you must not apply fertiliser for two weeks before crops are harvested for people to eat.**

**How often to apply?**

It is advised to apply liquid fertiliser 2 to 3 times when plants are growing, but it can also be applied to the soil at other times, especially if the plant leaves are starting to yellow or the plants are showing signs of needing feeding. If the soil is poor, applying fertiliser more often may be beneficial for feeding the plants. If crops are planted very close together or multiple harvests are taken, then up to 6 litres or more of urine or mixed liquid fertiliser per year can be applied (per 1 metre by 1 metre square plot) without causing damage.
Things to watch out for

Be careful when using urine or mixed fertilisers. Keep repeating these messages:

⚠️ Do not use directly on tender seeds or seedlings or their roots as it can be too rich and ‘burn them’. Ensure that the mixture is diluted with water before any application. Wait until the seedlings have grown strong and apply to the soil surface as much as possible rather than onto the seedling. It is probably easier to improve the conditions for seedlings by adding compost that has already been treated with the urine mix in advance.

⚠️ Apply homemade liquid fertilisers directly onto the soil, rather than onto the leaves of the plants.

⚠️ Avoid using homemade liquid fertilisers directly on the edible parts of plants, such as lettuce or cabbage leaves, tomato, cucumber etc.

⚠️ Do not apply for 2 weeks before harvesting any crops that people will eat.

⚠️ Never use dung or faeces from cats, dogs or humans which can carry disease.

⚠️ Remember to mix and stir the mixture regularly.

⚠️ Always use a lid, plastic sheet or sack to cover the container. Make sure any lid allows the fertiliser to breathe! It needs air to flow in and the fertiliser will produce gases that will need to escape.

⚠️ Like any fertiliser or strong chemicals - always store in a safe place away from children.
Links to other sections in this handbook

This activity links well to the other activities in this handbook:

- **Section 1**
  Gardens

- **Section 2**
  Compost

- **Section 3**
  Shaded Seedling Nurseries

- **Section 5**
  Improving Farming Practices

- **Section 6**
  Lead Farmers and Demonstration Farming

- **Section 7**
  Water Harvesting and Conservation

- **Section 8**
  Safe Water, Sanitation & Hygiene
Resources and skills needed

What resources are needed to run the activity?

- Any container (pot, bucket or old drums of any shape or size).
- Any lid, plastic sheet or sack to cover the container that allows air in and gas out!

What skills or knowledge do volunteers need?

Enthusiasm and ability to mobilise people and spread clear messages as described in the ‘Essential Guidance’ in the Introduction.

What skills do participants need?

People do not need any special skills.

What needs to be monitored or followed-up?

Volunteers should simply make sure people are following all the tips and the ‘things to watch out for’ in this section.
“The best way to overcome local hazards is to work together as a community to identify local solutions.”

Red Cross Volunteer in Lesotho
Improving Farming Practices

Identifying ways to overcome crop losses from drought, floods and other hazards

In this activity, volunteers bring knowledgeable and experienced people together with communities, to discuss and prioritise crop loss problems caused by climate and other stresses and hazards (droughts, floods, irregular rainfall, hail, strong winds, etc.) and identify solutions. This activity encourages communities to identify for themselves the crops and practices that best suit the drought, flood and other hazard conditions in their area. It also contains some general advice and guidelines on encouraging farming practices and crops that can cope with drought, flood and other stresses.

What does the activity look like?

This activity brings together the community, experienced farmers and other agricultural specialists in community meetings to:

- Discuss the stresses and hazards causing crop loss problems in their communities.
- Talk about why these stresses and hazards are causing crop losses.
- Identify ways these problems could be managed or overcome.
- Prioritise the most important problems and identify the best solutions to be tested. You can test the solutions as individuals, groups or under the guidance of a lead farmer (see Section 6).

This activity can be linked to Section 6 of the handbook which explains a way of testing and spreading appropriate solutions through ‘Lead Farmers and Demonstration Farming’ activities.

The activities in this section, to prioritise problems and identify potential solutions, can be used to help address any other problem in the community, for example related to livestock, water, health or sanitation.
What are the main benefits?

- Helps communities identify solutions to the stresses and hazards that affect them most.
- Concentrates on identifying local solutions that have been shown to work in other communities.
- Encourages selection of appropriate solutions that do not require much outside support.
- Helps farmers identify small positive changes and adaptations that cost very little but that can gradually improve crop yields.
Preparations

Timing tips

The length of the activity will depend on the problems and solutions identified by the community. It is likely to take more than one year. Communities may choose to continue to introduce new community actions year after year. Community groups can also tackle other problems together, such as pests and diseases, livestock, income generation, savings and loans, storage and post-harvest management etc. Each group and individual should be encouraged to train another person or group so that the new ideas are spread to everybody.

You can start at any time of year, but try to choose a time of day or year when people are not very busy.

What does the volunteer need to do before the activity can start?

In addition to the usual start-up activities outlined in the ‘Essential Guidance’ section in the Introduction of this handbook, the volunteer should talk to local extension officers and other knowledgeable farmers to encourage them to support the activity.

The steps below split the process into a number of separate community meetings. You do not have to run these meetings on separate days. Try and gauge how the community feels about continuing the discussion and having long meetings or if they prefer several shorter meetings. Discussions take time (and people have busy lives) but having separate meetings can interrupt the flow of the discussions. If there are new meetings on separate days, different people might attend - and you might have to explain things again. This can make decision-making less efficient, but good decisions that include everyone can take time.

How to avoid risks

Many people do not have much spare time or resources to do additional activities. Try to start with smaller, easier or cheaper activities and build up to larger ones.
## Section 5: Improving Farming Practices

### How to implement the activity?

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Step 1: Gather support from community members who are concerned about crop losses

The crop losses may be caused by climate related hazards, such as irregular rains, droughts, floods, cyclones, hail and strong winds. They could also be related to other difficulties, such as poor soil, erosion, or any other stresses, shocks or crises.

Try to identify a small group of the most knowledgeable and trusted people in the community to help you lead this activity and ask for support from community leaders, women’s or disability groups, local extension officers or experienced local farmers.

Use the advice in the ‘Essential Guidance’ section in the Introduction to this handbook, to mobilise the people in the community who are most interested in finding ways of addressing crop loss problems.

Crop losses can occur due to irregular rains, droughts or floods.

Step 2: Call a community meeting to explain the activity and how it will help to overcome community crop losses

Start the meeting by summarising the activity. Explain to people that you are enthusiastic to form a group of people who want to look for ways of overcoming crop losses, by adapting local farm practices. These crop losses could be due to droughts and floods, pests, diseases or whichever problems are most common locally.

You can then summarise what the activity looks like and the main benefits you hope to achieve, using the information at the start of this section.
Explain to people that the activity will involve a number of community meetings, where they will discuss the following topics with experienced people:

- The stresses and hazards causing crop loss problems in their communities.
- The causes, stresses and hazards contributing to crop losses.
- Potential solutions or ways of overcoming the crop loss problems.
- Prioritising the crop loss problems, and selecting the most appropriate solutions to be tested by individuals, groups, or under the guidance of a lead farmer (see Section 6 ‘Lead Farmers and Demonstration Farming’).

During the meeting you can give some general advice on farming practices that can help in flood or drought conditions, such as in the box below. You may find it useful to display these ‘crisis tolerant crop practices’ and remind people of them at the start of meetings:

**Drought, flood and other crisis tolerant crop practices**

- **Plant crops that tolerate difficult conditions** – farmers know that some crops do well whatever the conditions, so encourage them to continue to plant at least some of these crops. These crops will differ depending on the growing conditions in your community, but you can ask experienced or successful farmers or older people who remember crops that may not have been grown for many years such as cassava/manioc, millet, sorghum etc.
- **Plant different types of crops** – growing large areas of the same crops or seeds will increase the risk of pests and diseases, so that if a crisis does arrive, it makes the farmer more vulnerable to losing the whole crop. Planting a mixture of different crop types and different varieties that mature at different times increases the likelihood that at least some of the household’s crop will survive.
- **Stagger planting** – holding back some seed, and planting over a longer period can mean that if rains fail or pests attack, some seeds remain to be planted. Staggering the crop can mean that if the crop is damaged by pest or disease or another hazard such as wind or hail, at least some of the crop may be less damaged. Follow the advice in Section 3 ‘Shaded Seedling Nurseries’ for more advice on this.
- **Plant crops with different heights** – some crops store their food to harvest below the soil (roots, tubers or groundnuts), others on the surface, others in shrubs and others high up in trees. Each type of crop will tolerate different crises differently and some will survive better than others.
- **Advise the community to protect and encourage wild foods used in crises.** Communities can work with local leaders to identify the wild foods most important for providing food security during crises and deciding how best to protect them or develop them.
- **Advise people to think about ways to avoid post-harvest and storage losses.**

Ask people to go away after the meeting and think about whether some of this general advice could be helpful. Explain that it is important to:

- Try out new ideas in a small way first, before committing to new ideas in a big way.
- Share their experiences with one another, so they can learn from each other’s successes, setbacks and failures.

Agree a time for the next community meeting.
Step 3: Call a community meeting to agree the main types of crop losses in the community and the underlying causes, stresses and hazards contributing to these crop losses

You may find that word has spread, and new people have joined the group since the first community meeting. If this is the case, then you may need to start by repeating the summary and explanation of the activity from the first meeting.

Explain that the aim of today’s meeting is for the community to discuss the main crop losses in the community and understand the underlying causes, stresses and hazards contributing to these crop losses, so that in future meetings the community can identify ways of overcoming these problems and then work in groups or individually to trial improved farm practices.

Below is a detailed step by step guide explaining how to identify and prioritise crop loss problems. There is further information on this in the ‘Community Action Planning’ part of the ‘Essential Guidance’ section in the Introduction of this handbook.

**List the key crop losses.** Start by asking people to list the types of crop losses they have experienced in recent years and reasons for the crop losses if they know. Ask them to be as detailed and specific as possible - which crops affected in which months, where and why the losses took place, etc. You are recommended to write each different problem and the cause if known onto a separate piece of scrap paper and spread the papers out on the floor so everyone can see them. Many of the problems listed, such as irregular rains or floods may be related directly to the changing weather patterns caused by climate change, but others may not seem to be, like increased pests or disease attacks. It is fine to list all the problems identified and any reasons identified. Each time people think they have finished the list, keep asking “any more problems”, or “any other crops with problems?”.

If there are many people in your community who cannot read, you may decide to ask someone to draw simple pictures or symbols on each paper that help these people to follow which problem is listed on which piece of paper.

If time allows you can move on to ranking the problems in order of importance - prioritising the problems. If you find that the meeting gets very long, so you might decide to stop and start again in another meeting on another day!
Step 4: Call a community meeting to prioritise the crop loss problems that have been identified

Recap what was discussed in Step 3. When people have run out of problems resulting in crop losses, you can ask the community to prioritise the problems they have identified. The aim is to find out which are the most important problems that people want to solve first. It is important to explain that different people will find different types of crop losses more of a problem than others. The exact order of the prioritisation is not so important, but the community needs to decide which crop losses it wants to try to tackle first.

The group can work through the list and hopefully find solutions to all the community’s crop losses. Try to build a consensus or an overall agreement with all the people in the meeting. You are advised to choose a respected older person or local women’s group leader to be the first person to come and begin to put the problems listed on the papers in the order of ‘biggest problem at the top’, ‘smallest problem at the bottom’. Some problems will be of equal importance so can be left on the same level (side by side).
Ask the people in the meeting to guide the person ordering the papers with their opinions. Remember to ask quiet people to speak up, encourage women, the elderly, disabled or poorer people to take part. Older people are particularly important as they will remember some of the old crops and practices that may help people overcome the difficult crop conditions. After a short while, thank the first person and then ask another person to come and put some more of the problems into the prioritised list. Keep asking new people to have a go at ordering the list of problems until all the papers are listed in approximate order. If some of the problems are similar to each other, it is fine to group them into one small area.

Remember! There are no rights or wrongs! People experience stresses and hazards in different ways, so different people will have different opinions on which problems are most important.

If the meeting gets very long, you might decide to stop and start again another day. Remember to write down the agreed final prioritised list of crop loss problems. You can put numbers on the back of the pieces of paper to help you remember or draw a diagram or make a list to keep an accurate record.

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**Step 5: Call a meeting to decide which problems to tackle first and the reasons for and underlying causes of the problems**

Not all community crop loss (or other) problems are equal! Some problems will be much easier to tackle than others. So, in this meeting, you are advised to assess a small number of the most important problems to start with (those prioritised at the top of the list) before selecting which problem(s) and solution(s) the community will work on.

Volunteers are also strongly advised to ask the community to invite successful and experienced farmers from neighbouring communities and to invite other local knowledgeable people like government or NGO extension officers to the meeting to help decide which problems to tackle first.

The volunteer should give this advice to the community:

- Try to select a problem and solution that the community feels it has the capacity, skills and resources to be able to tackle. There is no point choosing a problem that is so big or complicated that the community feels it cannot make progress.

- It may be better to start small and select a problem that has manageable solutions. This way the community will be confident in solving this problem and can move onto a bigger challenge afterwards.

With this advice in mind, use the following steps to reduce the number of problems until there are three to five problems remaining. Explain that problems are complex, and it is better to look in detail at a small number of problems to start with. Three problems is the ideal number to start with!

1. Lay out the pieces of paper with the problems in the priority order (highest priority/most important problems at the top, lowest priority/least important problems at the bottom).

2. Ask a trusted community member (perhaps a woman first?) to remove around half of the low priority/least important community problems from the list. Explain that the volunteer will keep these problems safe so that the community can return to address these problems in the future if they wish.

3. Check that the other people in the meeting agree.

4. Ask a different trusted community member (perhaps a man this time?) to remove around half of the remaining problems until there are between three to five manageable problems left. Explain that the community can return to other problems on another day, month, season or year.
5. Take the remaining three to five problems and spread the papers out in front of the community.

6. Select the highest priority/most important problem (in the diagram below we have selected ‘lower maize yields’) and ask the community to describe in more detail some of the underlying causes or reasons why they think this problem occurs.

7. Write down each reason or underlying cause in large writing onto a separate piece of paper so that everyone can see. Arrange the reasons and underlying causes out on the floor as shown in the table below. If you have a large poster sized piece of paper, you can draw it up in a table as shown:

We have shown an example for one type of problem – lower maize yield. The problems and underlying causes and solutions in your community may be different. Remember to make one table for each problem being discussed.

- Like before, keep asking; ‘any more reasons’, or ‘any other underlying causes?’ until you have exhausted all the reasons and underlying causes for the problem. You may need to keep adding more columns for reasons or underlying causes, as there are usually a lot of them!

- The volunteer should make sure someone trustworthy keeps a record of all the reasons and underlying causes gathered so far for Problem 1. At this point the volunteer is advised to ask people if they wish to take a break for refreshment and continue looking at the second problem later, or in another meeting on another day. If the group choose to look at the rest of the problems on another day, the volunteer should ask them to choose the day for the next meeting and ask everyone to attend, especially the experienced and knowledgeable people and extension officers.

- Keep following Step 5 for each of the three to five problems prioritised, or until the community feels it has discussed the problems enough.
Step 6: Call a meeting(s) to identifying potential solutions

Each problem can be addressed in turn.

- **Before the meeting starts** explain to any invited specialists such as government or non-government extension officers, that you would like to hear potential solutions from the community first, and it would be good if they could add any new or different ideas afterwards. It is important to remind specialists joining the meeting that they should offer solutions that are simple and that do not require too much expert knowledge, skills or resources, that the community could find difficult to achieve.

- Start the meeting by repeating the crisis tolerant crop practices listed in Step 2.

- **Explain that the aim of the meeting is to identify potential solutions first.** Explain that not every solution will suit everybody or the local conditions, and that after identifying all the potential solutions, the community will prioritise them and select the most appropriate solutions. Explain that it may not be possible to cover all the potential solutions to all the three to five problems in one meeting. Lay out all the pieces of paper as before.

- For each problem in turn, work through the reasons or underlying causes that have been identified. Ask the community to identify potential solutions to address the problem by mitigating (making it less bad or less severe), reducing, avoiding or solving each of their underlying causes. Write each potential solution on a different piece of paper and arrange in a similar way to the table above. You may need to keep adding more columns for the potential solutions as there may be many ideas.

- Explain to the community that they may not know of potential solutions themselves or may not be able to think of any solutions straight away, but they can discuss and think it over and return to it later.

- Then ask the invited experienced farmers, government extension officers or non-government experts if they can think of any other potential solutions or ways of overcoming by mitigating, reducing, avoiding or solving each of these reasons or underlying causes to the problem that they think might work in this community. Ask the specialists to describe these potential solutions to the community and if the community think they might be appropriate, then add them to the list or table of potential solutions you have made together.

<table>
<thead>
<tr>
<th>Problem 1: Lower maize yields</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low soil fertility - Soil loss &amp; erosion after heavy rains</strong></td>
</tr>
<tr>
<td><strong>Late rains</strong></td>
</tr>
<tr>
<td><strong>Pests – Maize stem borer</strong></td>
</tr>
<tr>
<td><strong>Poor quality seed</strong></td>
</tr>
<tr>
<td><strong>Rats and mould spoiling the seed and grain stores</strong></td>
</tr>
<tr>
<td><strong>Soil conservation method – e.g. Strip farming (see Section 7)</strong></td>
</tr>
<tr>
<td><strong>Shaded seedling nursery (see Section 3)</strong></td>
</tr>
<tr>
<td><strong>Other varieties or crop types that need less water</strong></td>
</tr>
<tr>
<td><strong>Homemade liquid fertiliser (see Section 4)</strong></td>
</tr>
</tbody>
</table>

**Step 6: Identify potential solutions for each underlying cause, one after another**

**Repeat steps 5 and 6 for a small number of the highest priority problems**

**Colour key:**
- Underlying causes
- Potential solutions
- The community can also ask the invited specialists if they have anything further to add about the ideas the community have identified. Have these approaches proved successful or unsuccessful in similar conditions? Do they know of any other reasons why the ideas could work or might be difficult to achieve?

- Like before, keep asking the question ‘any more potential solutions?’ until you have exhausted all the potential solutions to all the underlying causes for the problem.

- Then move onto each of the other problems in turn. Remind people to be realistic and try to only list potential solutions that they think are appropriate and may work.

- The volunteer should make sure that someone trustworthy keeps a record of all the potential solutions as you look at each problem and its causes. At this point the volunteer is advised to ask people if they wish to take a break for refreshment and continue looking at the second problem later, or in another meeting on another day. If the group choose to look at the rest of the problems on another day, the volunteer should ask them to choose the day for the next meeting and ask everyone to attend, especially the experienced and knowledgeable people and extension officers.

- Keep following Step 6 for each of the three to five problems prioritised or until the community feels it has discussed enough.

- If communities are finding it hard to identify potential solutions to a problem, they could consider creating a small ‘working group’ to meet separately. The working group should include people that they think would be most knowledgeable about ways of finding solutions or alternatives to help tackle these problems. The community may decide to ask different people to look at different problems. This could include local farmers who have had success overcoming the problem, elderly farmers who remember some of the old or alternative ways, and local extension officers who know about technical solutions or alternative strategies. The volunteer should use the guidance in the box below to support the working groups that are set up.

**Guide the working group to try to find:**

1. **Small, moderate changes to existing practices** which are already familiar to local people. Brand new ideas different to people’s usual ways of working tend to be much harder to spread and less effective. If you do identify new ideas, then always make sure they are tried out in a small way first.

2. **Local alternatives** that have proven successful – ask local farmers which crops or varieties have:
   - **Tolerated the drought/flood** etc. (e.g. sorghum and different types of millet)
   - **Provided food after the drought/flood** (e.g. cassava/manioc, tubers, tree crops such as bread fruit, papaya or plantain)
   - **Have been useful ‘quick crops’ to plant after the drought/flood** to bring quick food and income (e.g. green leaves, tomato, chilli, onion etc.)
   - **Is there a local farmer who has not been as affected** by the drought/flood etc. - what strategies has this farmer used?
   - **Are there older people who can remember crops, remedies or ideas** (pest and disease advice perhaps?) from the past that tolerated poor conditions and survived crises?
   - **Are there people who have seen ideas** that have been successful in similar situations elsewhere?

The working groups can report back to the community in the next meeting.
Step 7: Call a meeting (s) to identify which potential solutions are appropriate solutions for an activity

Lay all the pieces of paper with all the different problems, reasons for and underlying causes and each of the potential solutions out on the floor.

Any working groups should present their findings back to the community and then the community should decide whether to add any of the new proposed ideas to the original prioritised list on the floor.

Explain to people that they cannot tackle every problem and every solution at once, but they now have a ‘Community Action Plan’ (see the section in the ‘Essential Guidance’ of the handbook Introduction) that records the many different ways they can begin to tackle some of the main problems.

Advise them that for their first community activity they should;

- Limit themselves to addressing one potential solution or a small number of potential solutions to just one problem! This may seem very hard to them, but experience has shown that starting small to build your capacities, skills and experience is better than doing too much and risking failure.
- Select a potential solution activity that does not involve too much outside support or resources.
- Try out any new ideas as a community in a small way before committing to involving many people in a big way.
- Share experiences with one another, so people can learn from each other’s successes, setbacks and failures.

How to select an appropriate solution activity:

1. First, ask the community to select a problem that they feel has potential solutions that they have the knowledge, skills and resources to realistically achieve without too much outside support. Different people may have different opinions on this, and it may take time to come to a joint decision or compromise.
Section 5: Improving Farming Practices

2. If the community is unable to come to a decision, then you may choose to prioritise solutions for two problems and then select the most appropriate final decision later.

3. Prioritise the potential solutions for the problem people most want to address by asking the community to assess all the potential solutions and following these instructions:

   - **Turn over or cover up any potential solutions that they do not think are appropriate,** manageable or achievable (across all the underlying causes). People may decide to try these solutions later.
   
   - **Identify which two to three potential solutions** (across all the underlying causes) they think are **most likely** to have a high level of impact on addressing or solving the problem with the resources the community has available.
   
   - Finally, ask the community if they can select the one **appropriate solution** that they would like to work on first. Sometimes the solutions are very similar so it may be possible to work on more than one at once, but in general it is best to advise communities to start on one solution activity and move onto others later.
   
   - If the community insists on attempting more than one appropriate solution at a time, then it may be better to encourage the community to identify two groups who each trial and test the solutions and then report back to each other, so they can share experience.

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**Step 8: Select a task force to design a plan of action**

Form a task force with some of the interested community members alongside any lead farmers, local extension officers, research institutions, non-governmental organisations or community-based organisations. Task force members should have useful experience or can offer support to help identify a plan of action for how to implement, test and trial the appropriate solutions identified and then demonstrate successful methods and approaches to the wider community. The task force may need more than one meeting to design a plan of action. It is important that the task force keeps feeding back their ideas to the wider community to cross check that the wider community agree.

Volunteers should refer to Section 6 on ‘Lead Farmers and Demonstration Farming’ which describes a way of spreading new farming practices through identifying lead farmers who can trial and then demonstrate the new or alternative ideas to other people. Once some workable solutions or alternatives for each of the community identified problems have been identified, use the information on “Spreading New Ideas” in the Introduction to this handbook to help you advise the task force on the best ways to explain and demonstrate the new and alternative ideas to the community.

The best way for people to learn how to do new things is for them to see how it is done and trial and test things together first and then for themselves (see the ideas in Section 6 ‘Lead Farmer and Demonstration Farming’).

Communities are advised to trial new practices in groups first or on small demonstration plots on selected farmers’ fields. After success has been demonstrated in a community trial, people should have a small trial on their own land for themselves before deciding to use more widely. Remind people that one of the main messages to reduce peoples risks and withstand crisis is to maintain diverse types of production and income generation strategies, so that if things go wrong, they have alternatives.

The same process of bringing the community and knowledgeable and experienced together to assess and prioritise problems and solutions can also be used to help assess other community problems related to livestock, water, or other problems such as health and sanitation issues.
Section 5: Improving Farming Practices

Things to watch out for

⚠ Try to make sure any experienced people invited to join the community discussions do not discourage the ideas that local people give, dominate in meetings, or put forward unrealistic, outside or unproven solutions.

Top tips

✓ Encourage people to test the ideas in a small way first.

✓ Consider organising a ceremony or activity so that after any successes, results can be observed and celebrated. Invite local leaders, authorities and even other neighbouring communities, or people that do not participate, to come and see the results. This could motivate other people to get involved.
Links to other sections in this handbook

This approach of identifying problems and solutions can also be used to address livestock, poultry or any other problems such as health or sanitation issues.
Resources and skills needed

What resources are needed to run the activity?

This activity relies on the experience of local people and should involve the resources, land, tools and ideas that people already have as much as possible.

Approximate costs

Depends on the activities selected.

What skills or knowledge do volunteers need?

No specialist knowledge, just the confidence to talk to local extension officers and bring people together to discuss matters in community meetings.

What skills do participants need?

No specialist skills.

What needs to be monitored or followed-up?

If people stop attending the community meetings, regular follow-up with these people can help the volunteer understand if people have lost trust in the process. Once the activity begins, the volunteer should check whether the ideas are working and if people are doing them and spreading the ideas to other people correctly.
“Once we helped show our community how to prioritise problems and use local knowledge and experienced farmers to demonstrate the new ideas, the community has gone from strength to strength and have tackled problem after problem. I don’t think it will ever stop!”

Red Cross Volunteer in Ethiopia
Lead Farmers and Demonstration Farming

The community identifies common farming problems and works with local ‘lead farmers’ to find ways of overcoming them. The community tests different ways of solving the problems and then demonstrates the best solutions to others in the community. The aim is to make the most of locally available skills and knowledge to empower farmers to implement their own decisions in their own fields. It is all about self-help – communities helping each other. The same approach can also be used for livestock, poultry or any other problems.

What does the activity look like?

The activity involves regular community meetings where the community identifies a small number of common farming problems and then selects people who are trusted farmers, good growers, and considered to be very knowledgeable on these subjects. The people selected are known as ‘lead farmers’ (some people call them ‘model’ or ‘champion’ farmers or growers). The volunteer then works with the lead farmers, preferably with help from local extension officers, to identify a small number of farming methods that they think will address the community’s main farming problems.

Each lead farmer is then assigned a small group of community members (up to 20 maximum) and will teach them how to use the good farming methods to address their problems.
Section 6: Lead Farmers and Demonstration Farming

What are the main benefits?

- Only needs local knowledge, skills and resources.
- Makes the most of local knowledge and encourages linking to government extension services.
- Addresses locally identified problems with locally available and appropriate solutions.
- Helps people grow more food and crops to feed their families and sell for income.
- Helps to empower people and give them self-respect.
- Helps communities tackle the changing climate conditions they are facing.

Photo: Tanzania, 2015 © Manon Koningsstein/CIAT
Preparations

Timing tips

✓ The activity will continue for at least one planting season but probably over several. It will depend on the problems identified by the community. Ideally the activity should cover the whole farming process, from selecting the seeds to post harvest management and marketing of the produce.

✓ Groups can start to tackle other problems together (pests and diseases, livestock, income generation, savings and loans, storage and post-harvest management, etc.). Each group and individual should be encouraged to train another person or group so that the new ideas are spread to everybody.

✓ You can start at any time of year but try to choose a time of day or year when people are not very busy. Start planning well before the planting season, so groups are ready to start new practices in a new planting season.

What does the volunteer need to do before the activity can start?

In addition to the usual start-up activities in the ‘Essential Guidance’ section in the Introduction of this handbook, the volunteer should:

1. Talk to local extension officers and other knowledgeable farmers.

2. Use the guidance on managing groups in the ‘Essential Guidance’ of the Introduction to this handbook to prepare and think about farmer group formation.

3. You may need to work with lead farmers, local extension officers, or local schoolteachers, to plan how to teach community members through a combination of training sessions and demonstrations in the field.

How to avoid risks

- Many people do not have much spare time or resources to do additional activities. Try to start with smaller, easier or cheaper activities and build up to larger ones.

- Lead farmers might not be very good or confident at explaining new ideas. Perhaps organise ‘lead farmers’ into pairs, so they can help each other.
## Section 6: Lead Farmers and Demonstration Farming

### How to implement the activity?

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<td>Community meeting to select lead farmers</td>
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<td>Step 12</td>
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</table>
Step 1: Community meeting to find out who is interested in taking part

Start the meeting by summarising the activity. Explain to people that you are keen to form a group of lead farmers who test different farming practices and demonstrate the best solutions to others in the community.

For guidance on how to organise a community meeting to form a lead farmer group, see ‘Essential Guidance’ section in the Introduction to this handbook and Step 1 and 2 in Section 5 ‘Improving Farming Practices’.

Step 2: Community meeting(s) to select which agricultural problems to address

Use the advice in Section 5 to discuss the main causes of crop losses and other farming challenges and identify potential farming practice solutions.

Try to make sure you involve lots of different types of people including men, women, young, elderly and people with disabilities. Older community members may remember crops that used to be grown that may withstand or tolerate the difficult conditions now being faced.

If you have access to large sheets of paper or posters, then it will help to write the problems down. Otherwise you can write each problem on a small piece of paper and then use these to ask the community to come to an agreement on which problems are the most important or ‘priority’ problems to address. There is a general description of how to do this in the ‘Community Action Planning’ section of the handbook Introduction, and Step 3 of Section 5.

Farming problems are discussed, agreed and written on pieces of paper and then prioritised (see Section 5 ‘Improving Farming Practices’ for a step by step guide).
It could be helpful to organise field visits with members of the community before the meeting, to observe and discuss farming and crop loss problems and identify potential solutions. The volunteer should keep notes of what is discussed and agreed.

If the community is facing a lot of crop loss problems that are climate related, such as unpredictable rains, droughts, floods, cyclones, or other weather-related crop problems, the volunteer may decide to look into the stresses and hazards and their underlying causes in more detail by following the Steps 3 to 5 in Section 5 of this handbook.

Or, the volunteer could discuss with people which crops can and can not tolerate difficult conditions well, such as drought, flood, hail or high winds. This may help communities decide what types of problems they would like the demonstration farmers to talk about. Use the table shown below to capture this information.

1. First ask communities to list all the key crops grown by the community.
2. List the main factors that affect the growth of these crops (problems and stresses) and then list additional factors they think need to be considered and discussed.
3. Ask people to describe the strengths and weaknesses of each crop against the factors they have identified.
4. People can either grade with a number from 1 to 5, (1 weak and 5 strong) or discuss each point and the volunteer take notes.
### Framework to discuss which crops and which problems to address

<table>
<thead>
<tr>
<th>Key crop factors to discuss</th>
<th>List locally produced crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilient to which of the problems identified?</td>
<td>Vulnerable to which stresses identified?</td>
</tr>
<tr>
<td>Maize</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td></td>
</tr>
<tr>
<td>Sesame</td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
</tr>
<tr>
<td>....</td>
<td></td>
</tr>
<tr>
<td>Total score or overall comments</td>
<td></td>
</tr>
</tbody>
</table>

**Step 3: Community meeting to select lead farmers**

It is important that the community select the people they think are the best farmers and that they trust, to become the ‘lead farmers’. The volunteer should also try to keep notes of what is agreed. Be clear on the commitments expected from the lead farmers, discuss with them and agree the minimum activities they will have to do and the duration of their commitment.

Lead farmers must agree to give their time and share their knowledge and may be asked to use their plots for demonstration, so the members of the group can visit the plots to learn.

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[Image: Zimbabwe, 2019 © Jordi Matas/BRC]
Step 4: Meetings between volunteers, extension officers and lead farmers, to identify solutions to community problems

Take each of the problems for each crop identified by the community and come to a decision on what needs to be taught and demonstrated, and who is best to teach each subject. There may be some topics that only one or two lead farmers have knowledge and experience of, so they should teach and demonstrate this to the other lead farmers first. Or, the lead farmer group could choose to specialise in one subject, so that each lead farmer teaches the same subject to each of the farmer groups.

Step 5: Meetings between volunteers, extension officers and lead farmers, to plan how to teach and demonstrate the new ideas

If lead farmers can write, then they may find it useful to have a notebook to keep notes. The volunteers should also try to keep notes of what is jointly agree the teaching methods, how long this would take, where it would be done, and what resources would be needed for the teaching.

Step 6: Community meeting to form groups to work with each lead farmer

It is better to let people decide for themselves which lead farmer they prefer to work with.
A small group should be no larger than 20 people per group. If the groups are bigger they become difficult to manage. In the groups, agree how much time the group members are expected to spend on the learning activities, and what kind of commitment they are expected to make.

Step 7: Regular training sessions

Regular training sessions where lead farmers explain to groups of farmers how to address a problem.
Step 8: Field demonstrations

The volunteer or lead farmer’s field or plot is usually used as a demonstration plot, where the farmer groups can test the proposed ideas and observe good practices. Some groups identify a ‘community plot’ that they can all work on together. However, this can have complications around ownership and sharing that need to be carefully managed.

Step 9: Practicing new ideas

The community farmers then help each other or work on their own plots to test and implement the new ideas. Advise them to test the new ideas on a small area of their land before adopting them on a larger scale. Divide a plot into four equal squares and test four different practices to compare which one works best.

The lead farmers support the community farmers until they are familiar with the techniques and able to do the new methods by themselves. The lead farmers then work with new groups.

Step 10: Follow-up

Try to monitor whether there are some people who are not understanding the improved farming practices very well. If some people drop out, ask them why this happened so you can try to find ways to improve their experiences. Volunteers and lead farmers should try to visit the group member’s plots to observe and see if the group members are applying the new methods and knowledge correctly. Remember, it may just be that the idea does not suit that person, or the soil type and conditions they have on their farm.
Section 6: Lead Farmers and Demonstration Farming

Step 11: Spreading the ideas

Follow the instructions on ‘How to spread ideas’ in the Introduction of this handbook to encourage farmer groups to tackle new problems and pass on their new skills to others in their community and eventually to people in neighbouring communities. When the farmers are successfully trained, they can nominate new lead farmers from within their own groups who can continue to train the group and start training new groups.

Step 12: Visibility

When resources are available, it is useful to have a simple sign with information placed on the plots where new ideas are being demonstrated. This can help other people to see and understand the new ideas and improved methods of farming being demonstrated.
Things to watch out for

⚠️ If groups identify a communal ‘demonstration plot’ to work on together, they will need permission from the landowner.

⚠️ Working together needs co-operation and agreement around sharing tasks and tools and sharing the crops grown between the group members.

Top tips

✔️ Get local extension officers involved as early as possible and as much as they can in all the steps.

✔️ Let people choose which other people they want to work with in groups.

✔️ Encourage people to test the ideas in a small way first.

✔️ Encourage successful groups to move on to addressing other problems e.g. livestock, poultry, savings and loans etc.

✔️ Adults learn better when they see something and have a go for themselves. Make sure you include lots of observation and practise and discuss what works and what does not work as well.

✔️ Consider organising a ceremony or activity so that after each success, results can be observed and celebrated. Invite members, local leaders, authorities and even other neighbouring communities, and also people that did not participate to come and see the results. This could motivate other farmers to get involved.

✔️ It has been found that groups work well when they include a good mixture of people (including women, young people and older people) with different ideas, interests, perspectives, skills and experience.

Spread the ideas further by organising demonstration sessions for school children.
This method of identifying problems and demonstrating solutions can also be used to address livestock or poultry problems, or preparing and responding to risks and disasters.

You can encourage groups to take on any of these other group related activities:
Resources and skills needed

What resources are needed to run the activity?

This activity relies on the experience of local farmers and should involve the resources, land, tools and seeds that people already have as much as possible.

Approximate costs

Depends on the activities selected.

What skills or knowledge do volunteers need?

No specialist knowledge, just the confidence to talk to local extension officers and bring people together to discuss matters in community meetings.

What skills do participants need?

Not specialist skills but willingness to learn and try new methods.

What needs to be monitored or followed-up?

Regular follow-up by the lead farmers and volunteers, to check whether the ideas are working and whether farmers are following the new ideas correctly.
“With these simple activities you will have more water for your families and livestock, and your crops will have a greater chance of withstanding droughts and overcoming soil loss.”
Water Harvesting and Conservation

Water harvesting activities involve collecting water for use by families, farmers or animals. It can involve capturing rainwater from roofs or catching and storing water in the soil. Water conservation activities help to keep captured water safe and healthy to use, and reduce water wastage or loss. Water conservation involves delivering messages to ensure households safely manage their water resources to reduce water loss.
What does the activity look like?

Water harvesting and conservation involves researching, understanding and gathering people’s agreement on which of the activities and methods are most suitable to capture, store water and use water more efficiently in their community. Once an activity has been selected, it then involves training and supporting people to implement the activities.

There are four main types of activities to harvest and conserve water listed in this section. Each method should be assessed and tested to check if it will work in a particular place and you can adapt any activity so that it is practical for people to use in their community;

1. **Surface water harvesting for farming** - These activities are simple cultivation methods and structures on farming plots to capture and store water in the soil for plants to use.

2. **Rainwater run-off capture and erosion control activities** – These activities involve building small barriers or dams to slow down the flow of rainwater that can cause erosion damage. Sand dams can also be used to capture water for use by animals or (if treated further) for drinking.

3. **Roof rainwater harvesting for gardens, livestock or drinking water** – These activities collect water from roofs and other structures with simple homemade structures.

4. **Safe water conservation and community water management** – These activities ensure that water is properly stored and kept, shared fairly to households and that water is not wasted, by people or animals. It also involves the community to monitor, maintain and improve water management methods.
What are the main benefits?

Harvesting and conserving water will increase the amount of water available for people, animals and farming.

Some activities try to slow down the flow of rainwater and floods that can carry away soil and damage land.

It keeps water in the soil and available to plants, so can help plants survive for longer without rain. This means plants can provide more food for families.

Water harvesting and conservation help people to withstand the shocks and stresses of the unpredictable rainfall and changes in climate and weather.

Some of the activities require small amounts of resources, but most require only time and effort.

The activities are particularly important in drought-prone areas where water is very scarce.
Preparations

Timing tips

Different water harvesting activities or structures can take different lengths of time to prepare. It may take a few weeks, months or longer, depending on the activity selected and the availability of people to do the work. The ‘capture’ of water depends on the amount of rain received and can take several attempts, sometimes over more than one rainy season to adapt and improve with experience.

Water conservation is an ongoing activity. Even when water protection mechanisms are installed – such as fences – these need to be continuously monitored and maintained to be effective.

Timing of the activity - The best time to construct surface water harvesting structures is when the ground is wet and easier to work. However, at this time people may be busy with other tasks. Most structures can be built at any time – the important thing is that they are in place before the main rains arrive.

What does the volunteer need to do before the activity can start?

1. **Get advice and support from experienced people** - Water harvesting and conservation is best designed and carried out with people who are knowledgeable or experienced in using these types of methods. Are there community members or neighbouring people who have used similar techniques, so they will know what works well locally? You could ask your local extension officers or other agencies like NGOs or international organisations like FAO (the Food and Agriculture Organisation of the United Nations) if they have soil and water conservation staff who can help.

2. Follow the steps outlined in ‘Community Action Planning’ in the ‘Introduction’ to this handbook, to identify and prioritise the problems related to water and soil conservation.

3. Try to discuss and understand what the local rainfall and land conditions are:
   - Gather information about rainfall patterns, including seasonality and intensity of rains, flooding, dry areas and erosion areas.
   - Concentrate on identifying the causes of water shortage and soil loss problems.
   - Learn about the overall landscape including how and where water drains to, is absorbed into the ground, and can collect into pools. Where are water channels (rivers, streams, canals) and where does water flow from and flow to? Keep in mind communities that live up and down stream and how your water conservation actions may affect them!
   - Find out about overall land-use patterns (where are the agricultural plots? Forests? Roads)?

4. Review which of the activities in this section or other activities that the experts suggest seem most suitable. Sometimes, it can be better to select activities which have already proved successful locally.

5. The decision on a particular technology or approach should be made together by the community, experts, and neighbouring communities who share the same source / supply of water and may be affected by any water structures. Try to select methods that local people feel will work best for addressing the causes of their own problems. No one approach is likely to suit everybody’s situation. People usually have a good explanation for why!

Once you have decided on an activity:

6. Consult with the community about how to find any of the equipment, materials or funding needed to build the water harvesting structures. Things to consider include when and how the work will be carried out, who will contribute their time, tools and labour and where the materials will come from.
7. All the listed activities require money, and if materials do need to be bought, then funding needs to be secured (either from the community or from other sources) and the materials ordered. The community will need to find the resources together!

8. Agree on and begin to form any water management committee or organisation that will be responsible for maintaining and monitoring the structures once they have been built.

9. For water conservation, develop messages that will work locally, identify who are the best people to act on the messages, and ‘test’ the messages out by talking to a few people who are in your target group.

10. Before starting the work, it is a good idea to write down a plan on paper and show it to the community. This should show where the activity will be located and how it will look when completed.

11. It is a good idea to write down a plan for the work to be done, including when each step will be taken and who will help out. This helps to keep the activity on track.

How to avoid risks

The success of water harvesting depends on four things:

1. Rain as a source of water – if there is no rain, it cannot be harvested.

2. Monitoring and conserving the water.

3. An effective harvest method that is monitored and maintained. Structures that are run down or damaged do not work well. Badly located structures may need to be moved or modified. Making modifications is not unusual and not a failure, but it is important to acknowledge that you may need to change, modify or re-do some of the structures.

4. Making sure that any water to be used for drinking will be safe (see Section 8 ‘Safe Water, Sanitation and Hygiene’).
How to implement the activity?

Select the most appropriate activity:

**Activity 1** Surface water harvesting for farming

**Activity 2** Rainwater run-off capture and erosion control

**Activity 3** Roof rainwater harvesting for gardens, livestock or drinking water

**Activity 4** Safe water conservation and community water management

**Introducing water harvesting**

Water harvesting is the first step to increasing stored water. In rural agricultural areas, this is traditionally done by capturing as much rainwater as possible on the surface of the soil and holding it for future use. Most systems channel rainfall run-off towards an area which can hold water – either a pond or reservoir or within the soil.

Water captured and held above the ground risks being lost either by evaporation or contamination (by dirt and disease). Capturing or trapping water within the soil depends on the soil type and structure. Traditional and local knowledge about water harvesting and water and soil conservation is often a good first step to gain an understanding of what has worked well in the past. It is also good to open up a discussion on some newer methods that may work well in the future.

Some common ways of capturing water are listed below – each needs to be carefully assessed and adapted to local conditions. All the activities listed require rainfall but make the most of the amount of rainfall by channeling the flow of water to one area, so that it has more time to soak into the soil or be captured and stored in some form of container or pond.
Activity 1: Surface water harvesting for farming

For many of the activities that harvest surface water for farming, you will need to mark out a level line across the slope of farm land. Here are some instructions for how to do this:

**How to mark out a level line across a slope to create farming strips for surface water harvesting**

The line across the slope should be as close to level as possible. Remember to keep the width of the cultivated strips suitable for locally used ploughs. On very steep slopes, the cultivated strips may need to be narrower so the lines you make across the slope will need to be closer together. Your local extension officer should be able to advise.

To mark these level lines across the slope, construct a simple wooden A-frame structure measuring 1.5 m high with legs 1.5 m apart. The horizontal support cross-piece is marked at the centre or half-way point. A string with a weight (stone or metal object) is attached at the top point of the ‘A’ and allowed to hang freely, similar to a pendulum as in the diagrams here:

Starting at the bottom of the slope, ‘walk’ the A-frame across the slope by rotating it from one leg of the frame to the other. Place a marker at each point on the ground where the pendulum lines up with the centre mark on the A-Frame cross-piece. Continue this for the length of the field that you wish to farm. The markers show a line across the slope that is approximately level.

Locate the next contour line 2 metres up or down hill from the first row. Follow the same marking procedure until the entire field is marked out.

© FAO, 2005
The main goal of the surface water harvesting activities listed below is to collect water for growing plants. The technologies listed are suitable for slopes up to 5% (for every 20 metres, the land rises by 1 metre) and are simple to construct. Volunteers can find more details about these activities in the resources which have been listed in the Annex at the end of this handbook.

**Strip farming**

This is one of the simplest ways of conserving water for plants and reducing soil being washed away in areas where there is a slope and soil erosion problems. It involves growing the usual cultivated crops in strips across the slope and leaving thin uncultivated strips in between. The strips are arranged to be approximately level across the slope of the land (see box on ‘how to mark out a level line across a slope’). **Strip cropping** helps to slow the flow of water running down a slope, creating natural untilled vegetation barriers so that the trapped water has more time to soak into the soil, as shown in the diagram below.

![Strip farming with wide cultivated strips and narrow uncultivated strips of fodder grasses.](image)

Farmers can grow any permanent crops on the uncultivated strips. Many choose to grow improved fodder grasses or shrubs. Your local extension officer will be able to suggest types of plants that can fix Nitrogen (called ‘leguminous’ plants) which not only help add fertility to the soil but add extra nutrition to the animal feed. Some farmers also grow a few fruit or wood fuel trees to help supplement their income.

**Strip catchment tillage**

This tends to be used in dryer areas and involves planting crops in rows across the slope but leaving space between the rows for water to run-off to the lower row. It is normally used with gentle slopes and the space between each row is about twice as big as the row for planting. Remember the strips run across the slope, not up and down the slope which would make the rainwater run away even more quickly and leads to even more soil loss!

![Strip tillage: in dry areas, strips are left untilled to allow water to run off into the planted area just below.](image)
Strip bunds or ridges
Strip bunds are small embankments, ridges or walls, made of stones, rocks, rubbish and earth placed across the slope. The ridges slow down the water that runs down the slope and traps water which settles into the soil behind the ridge. Strip bunds are easy to construct and can be used where the slope is less than 5%. Some people plant fodder grass strips across the ridges to protect the ridges and reduce rainwater run-off, erosion and damage to crops from strong winds.

Soil pits or ‘Zai’
Soil pits or ‘Zai’ is an activity where people dig small planting pits in the soil before the rains to catch water and concentrate compost. The technique is traditionally used in the dry areas of the Sahel to restore degraded drylands and increase soil fertility.
Dig small planting pits that are 20-30cm wide and 10-20 cm deep, and place the soil from the pit or small rocks or stones on the downhill edge of the pit to form a small dam. The pits are then filled with soil mixed with manure or compost where the crop will be planted at the centre of each pit. Water and soil captured in the shallow pit by the ridge of stones or material start to build up and provide better soil and water conditions for the plants.
Semi-circular bunds or ‘half-moons’
(‘Demi lune’ in French)
Semi-circular bunds or ‘half-moons’ are constructed from stones, earth or rubbish. They are effective where the slope is not very steep or less than 3% and the annual rainfall is 100 mm or more. The bunds or half-moons are built along a level (or ‘contour’) that is spaced to form a ‘staggered’ effect, as shown in the photo and the diagram here. Water is collected in each half moon or semi-circle and sinks into the soil. Extra water flows around the edges of the bund into the next semi-circular bund just down the hill. The size of the semi-circle is not important, they can be small or up to 20 to 24 metres across the top edge of the half-moon shape.

Offset or stagger the ‘half moon’ shaped semi-circular bunds.

Constructing semi-circular bunds can be hard work so share the load by working in groups.
Activity 2: Rainwater run-off capture and erosion control

When water runs at speed down slopes it can take away the best soil and erode deep channels as shown in the photo below.

*Fast running water erodes deep channels.*

Check dams and sand dams can help to reduce this problem.

**Check dams**

Check dams are small dams built from simple local materials (when the river or stream is dry) across channels, streams or rivers to slow down the flow of water. This helps the water go into the soil and reduces the erosion of the channels. Soil carried in the water is also deposited behind the check dam.

*A check dam can be build with local materials such as stones, sticks, fence poles, or wire mash.*
Sand dams
Sand dams are built across a seasonal, sandy river to capture water in a reservoir and in the sandy banks around the ‘dam’. The dam is built from a combination of support material, like timber or rocks, and filled in with general rubble (stones, mud). The reservoir fills up with water during the rainy season and the trapped water soaks into the sand. Once all the surface water has dried up, the water below the sand surface is still available and can be used.

Ponds
Ponds are a popular way to store water for livestock. Once the water levels drop, the area can be planted for food (see Section 1 on ‘Gardens’) or fodder for livestock. Larger ponds, basins or reservoirs can be used to store water and to channel water to irrigate land further downstream.

Drainage channels for flood water to run-off into specific plots of land can also be an effective way of capturing water during the rainy season and help to reduce flooding in some areas, while helping drier areas downstream to water their crops. Channels cut into the land can capture water from larger areas, such as hilltops or farmlands in a higher-up area. The water is channelled into a holding basin – such as a pond or reservoir - or onto farmlands lying lower down a hill.

Larger scale water harvesting schemes need to be carefully planned using local and historical knowledge about the layout of the land and soil structure and water flows. They are best carried out with expert advice and guidance.
Activity 3: Roof rainwater harvesting for gardens, livestock or drinking water

Roof rainwater capture can provide a source of water for gardens or livestock and can be done with any type of roof surface, homemade gutters and any kind of water capturing device.

If the rainwater is to be captured for human consumption it must be done so that the water is safe to drink. Water can be harvested close to homes, schools or clinics. Capture systems are easy to install but do require maintenance. Roof capture requires a roof, guttering and piping and a storage tank and taps. For the roof, corrugated sheets or tiles are best – although thatching and wood roofs can also be used. For the guttering, plastic piping can be used, or bamboo or sheets of corrugated steel bent into a ‘v’ shape. Piping and taps may need to be purchased from a store. Technical details on how to construct roof water harvesting using different types of materials is available from WaterAid and from Practical Action.

The roof, guttering and piping must be cleaned regularly and checked often for any cracks, blockages or leaks. Always have a plan for cleaning and maintaining the system.

Capture rain from a roof in whatever way you can.

Water which is collected from clean surfaces can be used for drinking only if it is treated carefully (see Section 8 ‘Safe Water, Sanitation and Hygiene’). People should be encouraged to be careful, as water from roof capture can trap insects, rodents and bird or animal droppings and other rubbish that can contaminate water and encourage algae to grow. Seek advice from the technical guides on how to construct roof capture mechanisms that can minimise contamination and always promote safe drinking water practices as outlined in the activities in Section 8.
Activity 4: Safe water conservation and community water management

Once water has been harvested, or where it naturally collects and settles, various methods can be used to ensure that it does not evaporate, get used inefficiently or become contaminated.

One of the most important steps in water conservation is developing a system that people agree to and will follow and keep to. Community based water management ensures that water is:

- properly stored and kept
- shared fairly between households
- not wasted by people or animals
- monitored carefully and improved by the community

Methods for conservation are different depending on the type of water harvesting or capture system and the local needs of a community. Some conservation measures are carried out by communities, some by groups within the community such as schools or hospitals, and others by households. The activities outlined below provide an example for each type of water conservation.

Community Actions

Water sources and areas where water is captured need to be protected from livestock, people and getting worn down by the environment. Water that is captured in ponds, tanks or other basins should be kept covered (with lids, corrugated iron sheet or a roof). This helps reduce water loss and reduces the risk of illness from contamination by flies and mosquito-borne diseases. Planting hedges and trees can be a good way of replacing costly fencing to protect water sources. Agreeing with livestock owners on the use of areas containing water is necessary and monitoring that agreements are upheld is an important part of conservation.
**Actions for public buildings**

In schools or hospitals, water captured using roof rainwater harvesting needs to be stored and used safely and efficiently. Set up regular monitoring of the water captured to check for infestation or contamination, and check for leaks in the water storage and taps. Also set up a clear set of steps that anyone who finds a problem can follow to resolve it, setting out how to report problems and who is responsible for dealing with them. Set up a regular weekly monitoring schedule and a monthly maintenance plan to clean gutters, piping, washers and tanks and follow-up to confirm it is achieved. Check for leaks and do general repair and clean up as needed. Finally, prepare short trainings or demonstrations on how to extract water carefully and without spillage, how to avoid contamination and ensure minimum wastage, and follow the same practices for all households to save water and keep it clean (see Section 8 ‘Safe Water, Sanitation and Hygiene’).

**Household actions**

Water conservation can be improved by delivering messages and training on good and safe water management practices. See the general guidance on messaging in the ‘Introduction’ to this handbook to deliver the key messages below.

**Key messages:**

1. **Maintain:** A household’s water storage and sources can become run down and need to be regularly checked, cleaned and maintained to remain safe and efficient. Set up a regular schedule to check and maintain water sources and storage devices, including jerry cans and home tanks (see Section 8).

2. **Keep safe:** Keep water storage areas safe so children do not fall in and keep livestock away from drinking household water sources.

3. **Reuse:** Reuse water that has been used for washing or cleaning, for gardens or composting (see Section 1 ‘Gardens’ and Section 2 ‘Compost’). Be careful that any reused water has not been contaminated with pollutants, strong shop-bought detergents or soaps or industrial oils.
Things to watch out for

⚠ Installing water harvesting methods is only half of the work! Making sure that people understand how to keep the water safe for drinking is just as essential (see Section 8 ‘Safe Water, Sanitation and Hygiene’).

⚠ Make sure that the community agrees on how to manage water sources and keep them safe.

Top tips

✔ Plan and gather input from the community to design the best system.
✔ Monitor what happens with the system you install.
✔ Be willing to change your design and do regular maintenance to ensure that the amount of water captured and conserved is maximised.
✔ Keep records of successes and failures to improve the design of future installations.
✔ Make sure to consult and ask people from all different parts of your community to be involved, including the most vulnerable and people from different religious, ethnic or language groups.

Section 8 describes activities on how to use the harvested water for safe drinking water, sanitation and hygiene.
Links to other sections in this handbook

If any of the water will be used for drinking water then it is essential that you consult and use the activities in Section 8 ‘Safe Water, Sanitation and Hygiene.’
Resources and skills needed

What resources are needed to run the activity?

- Volunteers will need the usual meeting and community space to discuss, plan and work with the community to design water harvesting and conservation activities. Paper, pens and notebooks to write down decisions and draw up plans are helpful but not always essential.
- Depending on the method and technology used, materials and tools will be needed. These are likely to be digging instruments (shovels, trowels, pickaxes etc.) for the surface water harvesting methods.
- Conservation measures that involve planting trees, bushes or grasses will require the seeds, seedlings and tools for planting.
- Fencing material may be needed for fencing off and protecting water sources.
- Roofing or covers and containers are needed to keep water from evaporating and protect it from some contamination.
- Access to technical guides – such as booklets or a computer with internet to find the technical references specified in this section – will be helpful for the roof rainwater capture design.

Approximate costs

This will depend on the technology used, so it is worth drawing up a list and estimating costs. Costs can range from zero if using local materials and tools to higher costs for purchasing water storage containers, guttering and piping for roof rainwater harvesting.

What skills or knowledge do volunteers need?

- It is important to have knowledge of the environment, including the slope of land, how rainwater has flowed in the past and previous mechanisms that have been used for harvesting water. Some of this can be gained by talking to elder people.
- For some of the options listed in this section it will be important to have some access to technical advice, either locally or through the internet where guides are available.
What skills do participants need?

- People's labour is important along with the tools that they can bring to build some of the structures outlined.
- Some basic plumbing skills will be very helpful for the roof-rainwater capture techniques.
- It is helpful if everyone is committed and takes part in conservation of water!

What needs to be monitored or followed-up?

Monitoring the water harvesting and conservation structure is an important part of maintenance. This is done by checking structures regularly and making repairs quickly.

Measuring the amount of water collected can identify leaks or wastage, and can be helpful for improving the design of a water harvesting or conservation mechanism. Simple tools can be made such as a stick with lines on it that measures the height of water at different times. Record the levels before and after rainfall and at regular intervals during the month or year.

This community in Malawi built a ‘check dam’ to hold back water for drinking water and for watering their crops in the dry season.
“Now we know how to keep our water clean and keep our children from getting sick we have really seen a big difference in our families – we buy less medicines, the children don’t miss so many lessons and I am not always so tired I can’t work.”

Lead farmer in Zimbabwe
Safe Water, Sanitation and Hygiene

Simple messages and practices for volunteers to communicate to people better understand how to keep the water they use in the home safe and their families free from germs, parasites and disease which can make them unwell.

What does the activity look like?

It will involve volunteers talking to people in the community and explaining:

- Key messages about safe water, good hygiene and healthy practices.
- How to do simple activities to keep water safe and families free from illnesses.

Wash your hands with water and soap or ash regularly.
What are the main benefits?

Helps people to make the water they use safe and the food they prepare clean and free from contamination and disease.

Helps people have self-respect, to be stronger and feel good about themselves.

Keeping food, water and people clean can help to reduce the amount of illness in the family. When people are sick and unwell, they find it difficult to work or to get the nutrition they need from the food they eat. This can affect their health and their ability to produce their own food or income.

Clean and healthy conditions are particularly important for the elderly, pregnant and breastfeeding mothers, young children and for the chronically ill or people living with HIV, who are more likely to get illnesses.
“Even short-term changes in behaviour can be important where the health risks are high. If people feel themselves to be at risk then they are also more likely to change their behaviour quickly. Therefore, if that willingness to change is enabled it can happen very quickly.”

IFRC 2008

Key messages

Keep repeating these simple clear messages to everybody in the family and community:

01. Flies and other insects can spread disease. Wash food properly before cooking and eating it and keep food covered.

02. Discourage people from defecating outside and locate latrines safely away from homes, water sources and food preparation areas. Clean the latrines on a regular basis.

03. Handwash with soap and water, especially after using the latrine, changing diapers/nappies, touching animals and food. Dispose of children’s faeces safely.

04. It only takes one person in the family to fail to wash their hands with soap and water after touching something dirty, and they can spread a contamination or disease to everyone else in the family and community.
Preparations

Timing tips

Informing people about safe water, sanitation and hygiene does not take a great deal of time, but working with them to make sure they understand and use good practices can take longer.

Volunteers will need to keep following-up and repeating the key messages to make sure that everyone in the family and community keeps using the good practices. It may take months or years to change people’s behaviour so that they adopt good practices in the long term.

Try to start at times of the day or at a time of year that is less busy for the specific group of people you plan to work with.

What does the volunteer need to do before the activity can start?

Follow the ‘Essential Guidance’ in the ‘Introduction’ to this handbook, for advice on getting people involved and organising meetings.

- Ask people or hold a meeting in the community to see if people think this ‘safe water, sanitation and hygiene’ idea is a good one and to see who is interested in being involved.

- Do you need to get any agreement or permission from the local Red Cross and Red Crescent, government authorities, community leaders or other family and community members?

- See the general advice on messaging and how to spread ideas in the Introduction of this handbook.

- Ask people if they would prefer to work in separate groups. It is recommended that you direct your key messages to different types of people and those who usually carry out the specific activity that is referred to. For example, when women and girls or boys are in charge of collecting water, they need to be the ones targeted by the messages about collection and transport of water. You can adapt the key messages to the different people you will work with. Women and men might prefer to talk about some things separately. You might need to change the way you speak to children about the key messages.

- Everybody uses the latrine, so everyone needs to hear sanitation and hygiene messages!

- House to house visits offer an opportunity to spread key messages about safe water, sanitation and hygiene, and for volunteers to assess and tailor messages to the specific needs of the family, but you will need to be sensitive and respectful.

- Much of the information and images in this section have been adapted from the IFRC (2008) ‘Household water treatment and safe storage in emergency’ and volunteers are encouraged to read it for more detailed information at https://ifrcwatsanmissionassistant.wordpress.com/water/
How to avoid risks

The activities in this section are low risk. The main risk is if people do not follow the instructions and key messages very closely, so the volunteer is encouraged to follow-up with households to confirm that families are putting new practices into action safely.

Try to get people to discuss risks before you start the activity:

- What are the most likely things that could go wrong when trying to ensure safe water, good sanitation and hygiene?
- What ways can people think of avoiding these difficulties?
- How do all the people using a water source want to keep it clean?
- How can animals be kept away from human drinking water sources?
- What can the community do to make sure there is safe water, sanitation and hygiene when there are emergencies (drought, floods, cyclones, etc.)?
How to implement the activity?

**Step 1** Spread key message 1 – There are 7 basic rules for safe water, sanitation and hygiene

**Step 2** Spread key message 2 – Store and handle water safely

**Step 3** Spread key message 3 - Water treatment part 1: clear cloudy or muddy water

**Step 4** Spread key message 3 - Water treatment part 2: disinfect water

**Step 5** Repeat key messages and try ‘pot racks’ and ‘tippy taps’

**Step 6** Monitor to make sure advice is being followed safely
Step 1: Spread key message 1 – There are 7 basic rules for safe water, sanitation and hygiene

<table>
<thead>
<tr>
<th>Rule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rule 1</strong></td>
<td><strong>Water sources</strong> should be used with care and maintained in good condition and with good hygiene. There should be no risk of contamination from nearby latrines, wastewater drainage, animals, or objects falling into the water source or well.</td>
</tr>
<tr>
<td><strong>Rule 2</strong></td>
<td><strong>Water collection and transportation</strong> - Drinking water should be collected in clean vessels without coming into contact with hands and should be cleaned regularly and kept covered.</td>
</tr>
<tr>
<td><strong>Rule 3</strong></td>
<td><strong>Water storage</strong> - Drinking water should be stored in a separate container from other domestic water wherever possible. Water should be stored in clean vessels which are covered and regularly cleaned.</td>
</tr>
<tr>
<td><strong>Rule 4</strong></td>
<td><strong>Water treatment</strong> - If the water source is not clean, or the water is not stored or transported safely, the water will need to be treated at home so that it is safe to drink (use the easy methods described in the water treatment section below).</td>
</tr>
<tr>
<td><strong>Rule 5</strong></td>
<td><strong>Water use</strong> - Drinking water should be taken from the storage vessel with a dipper or ladle so that hands, cups or other objects cannot contaminate the water.</td>
</tr>
<tr>
<td><strong>Rule 6</strong></td>
<td><strong>Latrine use</strong> - Latrines should always be used instead of defecating outside. Latrines should be located away from water sources and be kept clean (and emptied or replaced regularly).</td>
</tr>
<tr>
<td><strong>Rule 7</strong></td>
<td><strong>Hand washing</strong> - People should have soap or ash and water for washing hands.</td>
</tr>
</tbody>
</table>

Careful: Drinking water should be collected in clean containers without the opening coming into contact with hands.
Step 2: Spread key message 2 – Store and handle water safely

All efforts to make water safe to drink are wasted if the water is not properly stored or handled. Encourage people to *always* wash their hands with soap (or ash) and water before handling drinking water or containers.

All efforts to make water clean are useless if the water is not properly stored or handled.

But there’s a problem:
- Narrow necked containers prevent contamination but are difficult to clean.
- Wide necked containers are easily contaminated but easily cleaned.

What is safe water storage?

Safe water storage is the use of clean containers with covers and good hygiene behaviours that prevent contamination of the water during water collection, transport, and storage in the home.

Narrow necked containers help prevent contamination but are difficult to clean. Wide necked containers are easy to clean but will need to be covered to prevent contamination. **Encourage people to use whatever containers they have** but to keep containers clean and covered. It is best if people use different containers for collecting water and storing water.

For *narrow necked containers*, encourage people to clean them regularly with a soap solution, chemical disinfectant (if available), or small stones or pebbles to rub or scratch off anything stuck inside.

For *wide necked containers*, encourage people to keep them covered and find a way to take water out but without hands touching the water. This could be a long-handled ladle that allows them to collect the water without touching it, or an outlet tap at the bottom of the container. People should also be encouraged to regularly clean the container.

All illustrations in this and following spreads are adapted from IFRC: Household water treatment and safe storage in emergency ([https://ifrcwatsanmissionassistant.wordpress.com/water/](https://ifrcwatsanmissionassistant.wordpress.com/water/))
Step 3: Spread key message 3 - Water treatment part 1: clearing cloudy or muddy water

There are many water treatment methods, so you are advised to describe one water treatment method at a time on different days.

For more details and in other languages, see: https://ifrcwatsanmissionassistant.wordpress.com/water/

This section will focus only on the methods that do not involve much input and can easily be achieved at home:

If water is cloudy or muddy follow these simple steps:

**Step 1 – Strain** the water through a clean fine cloth (see below).

**Step 2 – Sediment** – Give the water time to settle (see the ‘3 pot method’ described on the next page) so that dirt falls to the bottom of the container, making the water more clear.

Note: Straining and sedimentation does not make the water safe to drink. It still needs disinfection to remove germs that cause disease. But making dirty water clear will make disinfection more effective.

Straining and sedimentation do not make the water safe to drink but can make disinfection more effective.

It is essential to treat water to make it safe, especially for vulnerable groups like the elderly.
Section 8: Safe Water, Sanitation and Hygiene

Step 4: Spread key message 3 - Water treatment part 2: disinfect water

**Disinfection** – making sure water is free from germs that cause disease. This may be done by chemicals, heat, or even sunlight.

Here we describe 3 types of disinfection:

1. **Boiling** - For boiling to work, **water must be brought to a rolling, bubbling boil for at least one minute in low elevations and for at least 3 minutes at high elevations (in the hills).**

Boiling has good and bad points. Discuss these with people:
- Boiling will kill all germs that cause disease and is something people can do themselves.
- It takes one kilogram of firewood to boil one litre of water for one minute.
- Boiling should not happen in areas where wood is scarce or gathering it is unsafe and other heating options are available.
- Boiling will not make water less cloudy.
- Boiled water can be re-contaminated, if not handled or stored safely. Boiled water should be stored safely and used within a few days.

Tip - Boiled water may not taste very good. This can be fixed by shaking the water and adding a very small pinch of salt per litre of water.

**Straining water** that is muddy or dirty through a piece of fine, clean cotton cloth, will help remove dirt, small pieces of soil and insect larvae contained in the water. A cotton cloth that you cannot see through works best. A cloth should not be so thick that it takes a very long time to filter the water. You can test to see if the cloth is suitable. If the dirt does not pass through the cloth, then it is working correctly. Washing the cloth between uses will make straining more effective. Straining alone is unlikely to make dirty or contaminated water completely safe to drink. But it makes household water treatment easier.

**Sedimentation using the ‘3 pot method’** – The three pot method (see the ‘visual aid’ in the Annex) reduces dirt and germs that cause disease by storing water in containers, allowing dirt to settle, and then moving the cleaner water to different containers over time.

You can discuss the positive and negative points of the 3 pot method with people:
- The 3 pot method greatly reduces dirt and disease causing germs.
- This method is low cost, easy to use, and is something people can do themselves with local resources.
- This method reduces, but does not totally remove, germs that cause disease. **All water should also then be disinfected.**
- Boiling, chemical, or solar disinfection is still needed to completely remove all risk of disease (covered in the next step).
2. **Solar disinfection** - Putting water that is in plastic or glass bottles in the sunlight will destroy most germs that cause disease. In tropical regions this will take around five hours, before and after midday. The amount of time the bottle is exposed to the sun will need to be doubled (two days instead of one) when the water is cloudy. The exposure time should also be increased if the weather is not sunny (rainy season).

Solar disinfection has good and bad points. Discuss these with people:
- Solar disinfection will kill most germs that cause disease if exposed to the sun long enough.
- Solar disinfection is something people can do themselves with widely available materials (clear bottles or clear plastic bags).
- Solar treated water can be re-contaminated if not handled or stored safely. It should be stored safely and used within a few days.
- Solar disinfection takes more time than other methods and requires sunny weather.

**Tips:**
- For greater effectiveness place the bottle on a corrugated-iron roof.
- To speed up the process, fill the bottle three-quarters full and vigorously shake it. Then fill the bottle and expose it to sunlight. Further shaking during exposure will also help.
- People are unlikely to want to drink the warm, treated water. Encourage them to let it cool.

3. **Chemical disinfection** – there are many chemicals available that can disinfect water (for example chlorine tablets). Whichever chemical people use, the important thing is to **follow the instructions carefully**. If there are no instructions, then try and find a product that does have instructions or ask somebody who is likely to know (such as a health professional, trained Red Cross or Red Crescent or NGO staff member).

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**Step 5: Repeat key messages and try ‘pot racks’ and ‘tippy taps’**

You are advised to repeat all the key messages and all the different treatment types in different ways. You could ask participants to explain key messages to one another.

Encourage people to try building ‘pot racks’ and ‘tippy taps’

Try a ‘Pot rack’ to reduce contamination of plates and cooking tools by storing them above the ground

Try a ‘tippy tap’ for handwashing close to latrines and places where food is prepared and eaten

There are instructions for how to build a tippy tap in the Annex. You can also find the instructions online in English and other languages at: [http://www.tippytap.org/build-a-tippy-tap-manual](http://www.tippytap.org/build-a-tippy-tap-manual)
Step 6: Monitor to make sure advice is being followed safely

One lesson on how to use these methods is not enough.

Keep repeating these messages in as many different ways (meetings, leaflets, house visits, radio, school, clinics etc.) as possible.

Follow-up training and monitoring should be carried out after the initial training.

Volunteers can keep track of changes changes in the community about:
- People’s satisfaction with the advice and methods.
- Are people using the advice and methods correctly?
- Are people’s other hygiene practices improving?

Things to watch out for

⚠️ If you are storing water, always try to keep it covered or it will encourage mosquitos which can spread disease!

⚠️ Costs of fencing to keep livestock away from drinking points can discourage people, so try to find alternatives (use discarded materials or thorny branches to start with and consider planting thorny bushes).
Top tips

- Encourage people to start small and slowly increase the new ideas and methods that they use, or they may get overwhelmed at first.
- Try to keep costs low by encouraging people to make use of the things they already have and share resources. Activities with high set-up costs can put the poorest people off and may increase their risks.
- Keep repeating messages in different ways and different places.
- Encourage people to share their ideas with others and neighbouring communities.
- Get advice from extension officers, health workers and other knowledgeable people.
- General merchants may be willing to give you some disinfection samples to demonstrate to people. Make sure you follow the instructions carefully!
- Once the volunteers and community groups are confident and used to running ‘safe water, sanitation and hygiene’ awareness sessions, try a follow-up activity and run an awareness session in a community location such as on market days, with neighbouring communities or at schools, health centres or other institutions, to tell other people about the new methods and the ideas.

Links to other sections in this handbook

This activity links well to the other activities in this handbook:

- **Section 7** Water Harvesting and Conservation
- **Section 9** Nutrition Awareness
- **Section 11** Early Warning and Early Action
Resources and skills needed

What resources are needed to run the activity?

- For volunteers - visual aids for awareness sessions are helpful but not essential.
- For people involved - water containers, clean cloth, water, soap or ash, time and effort.

Optional:
- Occasional meeting space.
- Record keeping book (list members, record any ideas or payments for shared resources or materials, etc).
- Organise advice sessions or trainings from other experienced people or extension workers.

Who can provide advice?

Some people in the community will already have good knowledge and awareness on safe water, sanitation and hygiene and can be asked to provide advice (for example teachers, health workers such as nurses, traditional birth attendants, doctors etc). If these people are not available in the community, then government extension officers, knowledgeable people based in neighbouring communities, other NGOs (non-government organisations) or international agencies may be able to provide advice and support.
Safe water, sanitation and hygiene awareness can cost as little or as much as you want to invest. If you use people’s existing containers, cloths and other materials and share and make your own tools, then you can keep costs low.

Volunteers may choose to invest in producing visual aids, pictures or leaflets to distribute, but you may decide to use other effective methods like demonstrations, theatre sessions and role plays, or ask the local radio station to spread the messages.

There is no special knowledge required for safe water, sanitation and hygiene awareness, but:
- You will need patience and persistence to explain ideas and keep trying to help and support people
- You will need confidence to ask other knowledgeable people like local health workers to help advise. Can you persuade them to join you in running or supporting the activity?

No specialist knowledge needed. People will get advice from the volunteers and learn together and teach each other.

Monitoring is optional, but sensitive follow-up to confirm that people are using the ideas and methods correctly is important.
“Why did nobody tell me red, orange and green fruit and vegetables and organ meat are the best for me and my family! It is just so much simpler now that I know what to grow to feed to my family so they will be stronger!”
Nutrition Awareness

The aim of the activities in this section is for volunteers to help people better understand which foods are nourishing and the importance of feeding the most nourishing foods to their families to keep them as healthy as possible.

What does the activity look like?

The activities in this section will involve volunteers talking to people in the community and explaining:

- Which foods are the most healthy and nutritious.
- Key messages about good nutrition and health practices.
- How people can be aware of health and nutrition services and how you can refer them to services.

Adapt the nutrition messages to the people you are talking to, like these pregnant women in Zimbabwe.
What are the main benefits?

People gain knowledge about how to select and prepare more nutritious foods to help keep their families healthy.

People become aware that healthy nutrition is within their reach and they can challenge ‘food prejudices’.

People become better aware of the importance of certain foods, especially for the most vulnerable people.

Encourages the use of local foods and reduces dependence on foods from elsewhere.

Healthy food choices increase empowerment and self-respect, confidence and self-worth.

Good breast feeding advice helps to keep vulnerable babies safe, healthy and well nourished.
Timing tips

- **Short awareness sessions, held often** – Nutrition awareness sessions should be short (about 20 minutes) and should happen regularly (once or twice a week). Talk to people about what suits them. The best idea is to do short nutrition awareness sessions as often as people would like them over a long period of time (months or years). The more you repeat the messages, the more people remember facts correctly.

- **Preferred timing** – Try to start at times of the day or year that are less busy for the specific group of people you are working with.

What does the volunteer need to do before the activity can start?

1. Follow the ‘Essential Guidance’ in the ‘Introduction’ of this handbook, on getting permission, organising meetings etc. Ask people or hold a meeting in the community to see if people think this activity is a good idea and to see who is interested in being involved.

2. Ask people if they would rather work in separate groups. Women and men might prefer to talk about some things separately. People who are chronically sick, or who care for the chronically sick, or people with HIV/AIDS, may benefit from specific tailored messages. You might choose to run a special session for breastfeeding mothers or mothers of young children. You might need to change the way you talk about things if you are trying to spread messages to children.

3. It is recommended that you select specific types of people to direct your key messages to. For example, if women or girls are usually involved in preparing foods or caring for children or sick or elderly people, they need to hear the relevant key messages. Everyone eats food though, so everyone needs to hear nutrition and hygiene messages!
4. House to house visits offer an opportunity for volunteers to assess and tailor messages to the specific needs of the family, but you need to be sensitive and respectful.

5. It is usually more effective if there is more than one volunteer involved. Try to make sure that you know as much as possible about nutrition and health before the activity starts. The IFRC Nutrition Guidelines (2013) is a good guide. Try to get a copy from the relevant person at national headquarters, or if you can get a copy printed it can be found at IFRC “Nutrition Guidelines”.

6. Make sure you are very familiar with the information in this section. It is a good idea for volunteers to run practice sessions on each other, to practice using the information. Volunteers should have knowledge of their communities (and their practices, habits, food etc.), and should try to find out which local foods have very high nutritional value (often elderly people know about traditionally rich wild fruits and vegetables).

7. It is recommended that volunteers visit and speak with some of the different types of nutrition and health service providers (nutritionists in the ministry of health, pharmacists, traditional birth attendants, community health workers, clinic staff, nurses, midwives or doctors etc.). It is important that you know what services are available so that you can refer people.

8. Local health workers may be willing to help guide your work and advise you as you get started.

How to avoid risks

It is important to discuss risks before you start the activity – there may be risks from people misunderstanding the nutrition messages. Discuss what are the most likely things that could go wrong? What ways can people think of avoiding these?
How to implement the activity?

Most of the messages in this section have been adapted from IFRC Nutrition Guidelines (2013) and are for the whole family. You will see that some of the messages suit certain groups of people more than others, such as young children or those who are sick or elderly:

**Step 1** Introduce why good nutrition matters

**Step 2** Spread 10 key messages slowly

**Step 3** Demonstrate a healthy diet and other activities in the community

**Step 4** Repeat simple messages, slowly and in lots of different ways

**Step 5** Spread the nutrition messages further

**Step 6** Follow-up to make sure advice is being followed safely
Step 1: Introduce why good nutrition matters

- Hygiene, health and nutrition are closely linked (see Section 8 on ‘Clean Water, Sanitation and Hygiene’).
- Around half of child deaths could be prevented if the child was not malnourished as well as sick.
- Good nutrition matters to make sure children grow well and for have good mental development.
- When children and adults are malnourished, they are more likely to get sick too.
- Malnourished mothers give birth to underweight babies, and when these children grow up they are more likely to have underweight babies themselves.
- HIV-positive adults need extra nutrients, especially when they are taking anti-retroviral medications.
- Adults who suffer from vitamin and mineral deficiencies are often tired and therefore less productive. This affects their ability to provide for their families.

A healthy diet is made up of a variety and balance of different types of food each day, including fruit and vegetables, cereals, tubers, roots, pulses, nuts, animal products and drinking water.

Step 2: Spread 10 key messages slowly

Below are 10 key messages that volunteers can slowly begin to share with community members. Don’t try to cover all the messages at once. Start slowly and keep repeating the messages in different ways, returning to each message lots of times. This helps people to remember and it is a way for you to check that they have understood the message correctly.

Key message 1

A healthy and balanced diet is full of flavour and colour. Food is made up of different kinds of nutrients that are essential for the body to function correctly, grow, fight illness and recover from disease. Encourage people to grow a wide range of different coloured fruits and vegetables to eat with their families (see Section 1 on ‘Gardens’).
Key message 2
There are 4 main food types for a healthy diet.

- At least half a plate made up of staple (starches) foods such as cereals, roots and tubers, to provide carbohydrates.
- About a quarter of the plate should be meat/animal products (e.g. meat, eggs, fish or milk) and/or pulses (e.g. dried beans or lentils) to provide protein.
- About a quarter of the plate should be lots of different coloured local vegetables and fruits to provide vitamins and minerals (try to grow and eat different types – leaves, fruits and tubers – and colours – green, red, yellow/orange).
- Small amounts of oil or butter to provide fats.
- Water is essential.

Key message 3
Very small amounts of iodised salt should also be consumed to provide iodine (a mineral). Iodine-rich natural sources include:
- Milk
- Egg yolks
- Fish from the sea and other seafood.

Key message 4
Healthy snacks, such as fresh fruits, raw vegetables and nuts, and fermented foods, such as yoghurt, can be eaten between meals. Children under 6 months old should have nothing but breastmilk.
Key Message 5
Use simple and careful cooking methods to ensure nutrients stay in cooked and raw foods.

✔ Preparing and cooking fruit and vegetables

Raw fruits and vegetables are the richest sources of vitamins and minerals. They need to be cut or washed in safe water just before eating. The less fruit and vegetables are cooked are cooked, the more vitamins and minerals will be preserved.

Vitamins and minerals can be damaged by:
- Soaking vegetables and fruits for too long in water.
- Cooking vegetables and fruits for too long and with too much water.
- Cooking green vegetables with bicarbonate of soda.
- Cutting leafy vegetables with a knife instead of ripping the leaves into pieces.

The best way of cooking vegetables is by steaming them with a little water instead of boiling them. Leaves from vegetables such as spinach can be steamed for about five minutes in a sieve over rapidly boiling water. Leaves will need to be stirred with a wooden spoon so that all of them are exposed to the steam.

The boiled water from vegetables contains a lot of vitamins and minerals and can be added to a stew or used as a sauce, soup or drink.

✔ Preparing and cooking pulses

Pulses include sugar beans, fava beans, chickpeas/cowpeas, pigeon peas, soya beans and lentils. Pulses can take a long time to cook and use a lot of fuel. They can also cause bloating and gas in the stomach.

To reduce cooking time and gas effects, soak pulses overnight and skim off the foam produced during cooking with a spoon. See also tips in Section 11 on ‘Reducing Fuel for Cooking’.

✔ Preparing and cooking meat, poultry, fish and eggs

Fresh meat, poultry, fish and eggs contain more nutrients than products that have been processed and put in tins. Organ meat is particularly nutritious (liver, kidney, heart etc.). All meat, poultry, fish and eggs should be thoroughly cooked as they can cause food poisoning and salmonella if they are not completely cooked.

Young children, the elderly and people with chronic illnesses like HIV AIDs are at particular risk of these illnesses.
Key Message 6

Practice safe water, sanitation and hygiene measures to stay healthy (see Section 8 on ‘Clean Water, Sanitation and Hygiene’). When people are ill, they find it more difficult to absorb the nutrition they need from foods.

- **Water use** – follow the steps in Section 8 to ensure you use clean water.
- **Latrine use** - Latrines should be used instead of open defecation. Latrines should be located away from water sources and be kept clean and emptied or replaced regularly.
- **Hand washing** - People should have soap or ash and water for washing hands at critical times
- **Always wash food.**

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Key message 7

Promotion of good nutrition for adolescent girls whose bodies are maturing and pregnant breastfeeding women who need to have an adequate variety and amount of food in their diets. Pregnant and breastfeeding women need one to two extra meals a day, along with plenty of safe water. Consumption of iron-rich foods like organ meat, eggs and green vegetables as well as iodised salt is also important.

Key message 8

Protecting and promoting best breastfeeding practices - Infants should be fed only breast milk for the first six months, starting within one hour of birth, with skin-to-skin contact. The thick yellow milk (colostrum) produced by the mother in the first few days after childbirth is very good for infants. No other liquids should be given to infants.

Key message 9

Promotion of best feeding practices for young children. In addition to breast milk, appropriate foods should be introduced to young children from six months. It is important to make sure that the texture or thickness of the food matches the young child’s ability to chew and swallow, especially in the early stages. A mashed, softer mix of the family’s staple foods with added mashed vegetables, fruits, nuts or meat or animal products is more nutritious for young children than giving them staple foods alone.
Key message 10
Promotion of good nutritional care of sick or malnourished children. Young children under the age of two are especially vulnerable to illness and malnutrition. Common illnesses, such as those caused by malaria, diarrhoea, intestinal worms and severe coughs or breathing difficulty, can cause vulnerability to malnutrition or make malnutrition worse. These illnesses should be treated by health workers. Use of mosquito bed nets and hand washing with soap or ash are simple but effective preventive measures. Infants or young children with diarrhoea should drink plenty of breast milk, and older children (over 6 months) should drink extra fluids, such as safe water.

Simple ways to prevent diarrhoea

Germs cause diarrhoea. Germs are small organisms often found in human and animal faeces or excrement that usually spread through contaminated water. Germs can also be spread by food, fingers and flies.

For the first six months, nothing but breastfeeding is the best way to protect the babies against diarrhoea. Do not give extra water to children under six months as it may not be clean and breast milk is best.

Simple ways to help prevent people getting sick include:

✓ Washing hands with water and soap or ash after touching poo/faeces/stools, after using the latrine or toilet, and before breastfeeding, preparing foods and feeding the child.

✓ Washing the child’s hands with water and soap or ash often and keeping the child’s play area and toys clean at all times.

✓ After six months, feeding the child with a clean, open cup. Feeding bottles are difficult to clean.

✓ Protecting food and drinking water from flies.

✓ Never eating leftovers of cooked foods after two hours, unless they are kept in a refrigerator.

✓ Keeping the child’s finger nails cut short.

If a child under six months gets ill, keep using only breastmilk (unless advised by a trained health professional). If a young child over six months gets diarrhoea, the child should immediately be given extra fluids, especially breast milk. If the diarrhoea continues, visit a health worker.

Remember! The availability of health and nutrition services will be different from one country (or even district) to another. Some may be free of charge for children up to five years. Volunteers should get in touch with the available services, so they know what exists in their area and how to refer people to these services.
Step 3: Demonstrate a healthy diet and other activities in the community

- Eat a healthy diet in your own family and lead by example.
- Promote key nutrition behaviours and support demonstration activities for an adequate, varied and balanced diet.
- Work with community members to identify and address key challenges to hygiene, health and nutrition, with recommended behaviours at the household and community level.
Step 4: Repeat simple messages, slowly and in lots of different ways

One lesson on how to use these methods is not enough.

Keep messages simple and clear and keep repeating these in different ways. Here is a summary:

- Eat a variety of different foods.
- Include carbohydrates in every meal by eating staple foods such as grains and roots.
- Eat proteins, such as pulses, meat, fish or other animal products daily, as often as possible.
- Include fibres in diet by eating fresh, unprocessed foods every day.
- Include only small amounts of fats (oil or butter) in diet every day.
- Include vitamins and minerals in diet by eating plenty of vegetables and fruits every day and adding small amounts of iodised salt to every meal.
- Ensure a balance of all types of nutrients in diet.
- Use simple and careful cooking methods to ensure maximum nutrients are obtained from foods.
- Consume safe water and healthy drinks as part of a daily diet.

Keep repeating these messages in as many different ways as possible (meetings, leaflets, house visits, radio, school, clinics etc.).

Step 5: Spread the nutrition messages further

Once the volunteers and community groups are confident and used to running nutrition awareness sessions, they can run an awareness session in a community location such as on market day, with neighbouring communities or at schools, health centres or other institutions, to tell other people about the new methods and the ideas they have used that have helped them.

Step 6: Follow-up to make sure advice is being followed safely

Follow-up training and monitoring should be carried out after the initial training. Volunteers can monitor changes in the community in relation to:

- People’s satisfaction with the advice and methods.
- Are people using the advice and methods correctly?
- Are people’s other hygiene practices improving?
Things to watch out for

Discuss and find alternatives for local ‘prejudices’ about foods - it can be hard to challenge long standing local beliefs. Try to find out what local foods are forbidden. Some examples of messages that are not true:

❌ If a child eats egg before the age of five years they can become bald.
❌ If a pregnant woman eats fish, they will deliver a baby with the shape of a fish.

You can try to encourage people to challenge these beliefs or try to find other foods as alternatives from the same food group or category. Be aware that often mothers and grandmothers can have a lot of influence about foods with their daughters-in-law, especially around how to feed their baby.

Top tips

✔ Keep repeating messages in different ways.
✔ Encourage people to share their ideas with others and neighbouring communities.
✔ Get advice from extension officers, health workers and other knowledgeable people.

Links to other sections in this handbook

This activity links well to the other sections in this handbook:

- Section 1: Gardens
- Section 5: Improving Farming Practices
- Section 8: Safe Water, Sanitation & Hygiene
- Section 10: Reducing Fuel for Cooking
Resources and skills needed

What resources are needed to run the activity?

- For volunteers - visual aids for awareness sessions are helpful but not essential.
- For people involved – food, water, soap or ash, time and effort.

Optional:
- Occasional meeting space.
- Record keeping book (list members, record any ideas or payments for shared resources or materials, etc.)
- Organise advice sessions or trainings from other experienced people or extension workers.
- Organise a cooking and tasting demonstration especially to encourage healthy types of food that might not be so popular (e.g. small grains). You can be imaginative with the recipes!

Who can provide advice?

Some people in the community will already have good knowledge and awareness of nutrition and can be asked to provide advice (local health workers, traditional birth attendants, government staff, or other non-government organisations or international agencies may be able to provide advice and support).

Approximate costs

Nutrition awareness can cost as little or as much as you want to invest. You may choose to invest in producing visual aids, pictures or leaflets to distribute, but you may decide to use other effective methods like demonstrations, theatre sessions and role plays or asking the local radio station to cover the key messages. It is important to monitor to make sure the messages are delivered accurately and safely.
What skills or knowledge do volunteers need?

- No specialist knowledge required, but you will need confidence to ask other people or health workers for advice. Can you persuade them to join you in running or supporting the activity?
- Motivating and organising people or helping people come to decisions in groups.
- Patience and persistence to clearly explain ideas and keep trying to help and support people.
- Volunteers should try to get a minimum level of knowledge on nutrition by reading this section or referring to the IFRC Nutrition Guidelines (2013) which is a good reference guide. Try and get a copy from the relevant person at national headquarters or if you can get a copy printed it can be found at: IFRC Nutrition Guidelines. Volunteers need to be able to answer basic questions from the community. You could try to participate in an awareness session in a health centre, or get advice from a health worker or Red Cross and Red Crescent trainings.

What skills do participants need?

No specialist knowledge needed. People will get advice from the volunteer and learn together and teach each other.

What needs to be monitored or followed-up?

Monitoring is optional, but sensitive follow-up to confirm that people are using the ideas and methods correctly and safely is important.
“Using cookstoves, most households have reduced the time spent on collecting fuel wood by two thirds (from three trips per week to one trip per week), reducing tree felling and saving women and girls considerable time for other productive and educational tasks.”

APT Action on Poverty, Uganda project evaluation, 2014
Reducing Fuel for Cooking

The activities in this section describe some easy and simple ways to reduce the amount of wood or charcoal that is needed to cook food, by improving fires and cooking methods. It will explain how to arrange the rocks around a cooking fire and how to build more fuel-efficient cookstoves from freely available local materials. This section also explains other strategies to reduce the amount of fuel people have to collect, which will help save people’s time and reduce the dangerous effects of breathing in smoke from fires.

Advise people to keep stoves well maintained and use a pot which covers the whole stove.
What does the activity look like?

The volunteers will hold meetings to explain to people some simple methods for reducing the time that food needs to be cooked for.

There are very easy ways to reduce the amount of fuel used for cooking, such as putting the stones closer together around the fire!

Stoves made out of metal cans work well for people who are on the move. The pot should cover the stove and there should be small air holes in the top of the metal can.

Encourage local potters to make fuel-efficient clay stoves.

Volunteer(s) will then show people a few different ways they can make their own simple improved stoves. Some people may decide to try and make more complicated stoves, like the one below:

A very fuel-efficient two pot stove with a chimney for indoors or outdoors, also called an ‘elephant cookstove’.
### What are the main benefits?

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td><strong>Saves wood and costs</strong></td>
<td>Reduces money spent on wood and charcoal, leaving people more time and money to rest or spend on other productive tasks.</td>
</tr>
<tr>
<td><strong>Good for the environment</strong></td>
<td>Reduces chopping down of trees which helps look after the environment and reduces soil erosion.</td>
</tr>
<tr>
<td><strong>Cooks faster</strong></td>
<td>Heat is concentrated on the pot and saves cooking time.</td>
</tr>
<tr>
<td><strong>Less smoke</strong></td>
<td>Reduces health problems from breathing in smoke.</td>
</tr>
<tr>
<td><strong>Safer to use</strong></td>
<td>Can reduce burn injuries and home fires, if fires are better covered and have chimneys.</td>
</tr>
<tr>
<td><strong>Healthy family</strong></td>
<td>The time saved by using fuel efficient stoves can be used for gardening to get more nutritious food or for childcare activities.</td>
</tr>
</tbody>
</table>
“I cannot tell you how much the changes I have made to my cooking have changed my life! I save money on charcoal to send my girls to school, and now that I have my chimney I can breathe when I’m cooking without coughing all the time. The first thing I did was teach my friends to build a stove - it was the best gift I could give them!”

Key messages

01. Always use dry firewood split into pieces. Wet firewood burns with less heat. It also produces a lot of polluting smoke.

02. Always use a saucepan lid to cover food when cooking. This creates cooking pressure leading to faster softening of food and saves fuel.

03. Cut the ingredients into smaller pieces. The technique reduces the amount of energy required to cook.

04. Soak the dry foods (beans, peas, pulses etc) for at least 5 hours, before starting to cook. This cuts down the amount of time and fuel to cook these kinds of food.

05. Avoid using too much water in the cookpot. Water takes a lot of energy to boil it, so too much water wastes fuel.

06. Light the fire after preparing the ingredients for cooking.

07. Put out the fire immediately after cooking to avoid wasting firewood.
### Preparations

#### Timing tips

This activity is likely to take a minimum of 2 months, probably longer to reinforce the ideas and spread the messages and cookstove technologies well.

The activity can be started at any time of year but preferably when people are less busy.

#### What does the volunteer need to do before the activity can start?

In addition to the usual start-up activities outlined in the ‘Essential Guidance’ section of the ‘Introduction’, the volunteer should try to get help and advice from government extension officers, other organisations or people in the community who know how to build more fuel-efficient cooking stoves.

The volunteer could build their own efficient cookstove and use it as an example. You could build different types of cookstoves so you will be better informed to advise others.

### How to implement the activity?

<table>
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<tr>
<th>Step</th>
<th>Description</th>
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<tr>
<td>Step 1</td>
<td>Hold a community meeting to see who would like to be involved</td>
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<td>Step 2</td>
<td>Explore how people cook now and advise on improving ways of cooking to reduce fuel use</td>
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<td>Step 3</td>
<td>Advise on ways of cooking that will help people to cook more quickly</td>
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<td>Step 4</td>
<td>Advise how to build a simple improved stove</td>
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<td>Step 5</td>
<td>Promote ideas for how to build other basic stove types</td>
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</tbody>
</table>
Step 1: Hold a community meeting to see who would like to be involved

Make sure that the people from the poorest households are invited, as well as people from displaced communities and households with disabled or chronically sick people. Use the information from the start of this section to describe the activity and how it could benefit them.

Basic improved stoves can be made with locally available materials at almost no cost: displaced women in Western Darfur, the Sudan, learn how to make fuel-efficient stoves out of mud.

Step 2: Explore how people cook now and advise on improving ways of cooking to reduce fuel use

Call a meeting to discuss what types of cooking practices people use and find what methods will suit people most.

Some questions to ask:

? Do people cook indoors or outdoors?

- People cooking indoors should:
  ✓ Make sure there is lots of air flowing through the cooking area (open doors and windows whatever the weather) as the fire needs some air, but not too much!
  ✓ Always recommend that indoor stoves are fitted with a safe chimney to take toxic smoke out of the cooking area.
Section 10: Reducing Fuel for Cooking

People who cook outdoors should:

- Find a slightly raised area to stop the fire flooding in the rains.
- Find a place that is sheltered from the wind, as too much air makes fires burn too fast.
- Try to construct a simple cover over the cooking area to keep the rain off the fire, and stop the stove being damaged by rain. Make sure the cover is not made of a material that burns easily!

Do people want to improve their existing fires to make them more fuel-efficient?

Advise these people to simply use more stones, rocks and bricks (preferably packed with anthill or clay mud) around the fire to reduce the amount of air getting into the fire. This will make the fuel burn more efficiently and concentrate the heat onto the pot. They can leave one gap in the circle of stones where they can feed wood fuel into the fire. People can use a piece of metal or a removable stone to cover the gap during cooking and keep the stove even more efficient.

If the pot has no lid, the heat from the food escapes and it takes longer to cook the food.

If the pot is too small for the stove, the heat and flames pass around the edges of the pot and do not heat the pot well.

A traditional cooking method burns fuel very quickly as it allows too much air into the fire.

Safety Tip: Ventilate cooking areas and use chimneys - all fires use the oxygen which people need to breathe and produce toxic smoke that can damage people’s health and can kill them!
Section 10: Reducing Fuel for Cooking

By placing rocks closer together the fuel burns more slowly and cooking speed is increased.

By covering the rocks with a clay mixture, the amount of fuel saved is even greater and cooking times can be reduced even more.

Always use a chimney for indoor stoves to reduce fires and lung disease from smoke.

Using a lid on the pot keeps the food hotter so it cooks more efficiently.

Using a pot that overlaps the edges of the stove concentrates the heat from the fire onto the pot and speeds up the cooking time.

The smaller gaps between the rocks allow less air to feed the fire, making it burn the fuel more slowly and direct the heat onto the pot so it heats more quickly.

When a clay mixture is used to cover the rocks it stops the air feeding the fire so it burns very efficiently (see instructions in step 4).

Leave a gap where fuel can be added.

Use a rock or a piece of metal to cover the gap during cooking.

Using a pot that overlaps the edges of the stove concentrates the heat from the fire onto the pot and speeds up the cooking time.
Section 10: Reducing Fuel for Cooking

Step 3: Advise on ways of cooking that will help people to cook more quickly

This advice can be helpful to everybody, but especially to households with limited capacity for collecting firewood (female headed households, elderly, chronically sick, people with HIV/AIDS, people who have been displaced, people living in camps, or when collecting fuel is unsafe.

Cook less often
Cooking a large amount doesn’t use much more fuel than cooking for a small number of people. Advise people to try:

- Cooking once a day and eating the second meal cold or reheated.
- Taking it in turns to cook one big meal with a friend or neighbour, so you only have to cook half as often!
- Community cooking – cooking for large numbers of community members can be fun and uses a lot less fuel.
Make sure:
- Food is always covered, stored safely and reheated thoroughly, especially for people vulnerable to illness such as young children, the elderly, the chronically sick and people with HIV/AIDS.
- Keep hot pots and hot food out of reach of children that may get burnt and out of reach from animals that might steal it!

Fuel-efficient cooking methods
Certain foods take much more cooking time and fuel to cook. Advise people to try these methods:

- **Beans, peas and pulses soaked overnight** take much less time to cook. Try cooking a very large amount of beans all at once (or share cooking with friends/neighbours), cover and use slowly in different meals for several days.

- **Cook and then cover** – cooking is quicker if pots are kept covered. Try cooking food until boiling and then remove the pot from the fire and wrap in a thick cover or blanket. Some people dig a pot-sized hole in the ground and place the wrapped pot in the hole, and cover with other materials to insulate the pot (wool, crop residues, soil, stones etc.). The food will cook in its own heat for a long time and can always be returned to full temperature later.

Remember to keep repeating the key messages so that people do not forget them.

Step 4: Advise how to build a simple improved stove
Below are the basic instructions for how to build any stove. The next step describes how to use these same principles for making more complicated stoves.

Prepare:
- **Choose a site for the stove** – the site should be compacted, made firm and level and preferably be slightly raised to stop it being flooded when it rains. Choose a well-ventilated place with lots of air that is protected from any strong winds.

- **Gather the construction materials at least a day before stove construction.**

Construct:
- **Make the clay mixture:**
  - Gather clay – use either clay soil or anthill clay crushed into small pieces or grains and remove any stones, sticks or other unwanted materials.
  - Gather manure/dung - If you do not have enough you can substitute small amounts of sawdust, chopped grass, wood shavings or sorghum husks.
  - Mix equal amounts of the manure and clay in a ratio 1:1 (1 bucket of manure to 1 bucket of clay).
  - Slowly add just enough water to the mix so it is easy to mould.
  - Blend the mixture using hands or feet like the way it is locally done when preparing mud for brick making.
Step 1 – Mix animal dung with mud. Add water gradually to ensure soft mixture, stirring until the whole mixture has the same consistency. Cover the mixture and leave to sit for a day.

Step 2 – Draw a line in the sand or dirt around the cooking pot that is most frequently used in the kitchen.

Step 3 – Get 3 brick pieces, stick clay under them, and place them equally around the inside edge of the circle.

Step 4 – Fill the circle completely with clay to a height of 4 cm. The bricks should be embedded in the clay. Smooth this clay. You now have the base of your stove.

Step 5 – Build a 4 cm thick clay wall around the bricks until level with the top of bricks. The outer side of the bricks will be to be slightly embedded into the wall.

Step 6 – Place the cooking pot on top of the bricks. Build the wall up until just under the rim of the pot. Keep a finger-sized gap between pot and wall.

Step 7 – Remove cooking pot. Use scraper to smooth out surface of stove.

Step 8 – Cut a 10 cm width hole in the side of the stove. The hole is to allow in air for the fire and to insert firewood, briquettes or other natural material to fuel the fire.

Step 9 – Leave stove to dry in sun for 5 days before use.
Step 5: Promote ideas for how to build other basic stove types

This is a simple one pot stove with a chimney.

This is a simple steel pot cook stove.

This is a simple metal can stove for people who keep moving from place to place. Take care to use smaller pots so the tin does not tip over and surround the tin with stones to make it more stable.

Here is a simple stove constructed from bricks.

This is a simple 2 pot stove.

This is a stove being built with clay using old metal tins as moulds.
Things to watch out for

Volunteers should follow-up and keep reminding people to:

⚠ Always inspect stoves for any repairs needed when they are cold!
⚠ Make sure chimneys are fitted on all indoor stoves and check for faults or damage.
⚠ Make sure grass or thatched roofs are protected from sparks or fire from stoves.
⚠ Check the stove fire chamber and cookpot support area for cracks and damage and encourage maintenance to maximise safe and efficient use.
⚠ Ensure ashes from the stove are composted to return nutrients to the soil (see Section 2).

Top tips

✓ Advise people to start with a basic stove design and try more complicated designs later, or when there is an experienced person available to share their knowledge.
✓ Ensure the stove is protected from the rain.
✓ Ensure the stove air vent faces to the direction of the wind or draught to help the fire burn well.
✓ In cases where the stove is built inside the house, ensure good circulation of air in the house.
✓ Encourage people to pass on the gift of their knowledge on cookstoves to neighbours and neighbouring communities.

Links to other sections in this handbook

Section 1
Gardens

Section 2
Compost

Section 8
Safe Water, Sanitation & Hygiene

Section 9
Nutrition Awareness
## Resources and skills needed

What resources are needed to run the activity?

### 1. Tools required when building the energy-efficient stoves:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoe</td>
<td>Digging and mixing ingredients</td>
</tr>
<tr>
<td>Shovel or spade</td>
<td>Mixing ingredients</td>
</tr>
<tr>
<td>Water container</td>
<td>Fetching water</td>
</tr>
<tr>
<td>Trowel</td>
<td>Smoothing plaster</td>
</tr>
<tr>
<td>Wheelbarrow (optional)</td>
<td>Carrying construction materials to the stove construction site</td>
</tr>
</tbody>
</table>

### 2. Materials used in stove construction and their alternatives:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Alternative Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthill soil or clay</td>
<td>Sawdust, wood shavings, chopped grass, sorghum husks, ground nuts shells, any dry leaves</td>
</tr>
<tr>
<td>Dung or manure</td>
<td>Sawdust, wood shavings, chopped grass, sorghum husks, ground nuts shells, any dry leaves</td>
</tr>
<tr>
<td>Stones or rocks</td>
<td>Cured earth bricks (optional)</td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
</tbody>
</table>
Approximate costs

All the materials should be freely available, but the tools for building the more complicated energy-efficient stoves might need to be borrowed or purchased.

What skills or knowledge do volunteers need?

No specialist skills but it helps to get advice from people experienced in stove construction, pottery or brick making.

What skills do participants need?

No specialist skills needed.

What needs to be monitored or followed-up?

It is important to follow-up on the safety features:
- Keeping indoor fire/stoves well ventilated.
- Safe fitting of chimneys and avoiding fires on grass/thatch roofs.

References/resources

Clean Cooking Catalog (http://catalog.cleancookstoves.org/stoves/149)
“We have come together as a community now. We have our plan, we each have a role and we practice what to do when the floods and pests and human diseases come to our village.”

Red Cross Volunteer in Malawi
Early Warning Early Action (EWEA) helps communities to be ready for a crisis or emergency when it happens. Prepared communities and households can prevent or deal with emergencies better. Depending on your location, you can prepare for many types of events (also called ‘hazards’ or ‘shocks’), such as floods, droughts, cyclones, volcanic eruptions, disease and pest outbreaks, oil spills, fires, heatwaves etc. The activities in this section encourage communities to think about the most likely hazards and understand what they can do to help themselves. This may be spreading weather warnings and crisis alerts or it may be taking other preparedness actions before the impact of the event. This should help communities to protect their lives, homes and livelihoods and help them withstand shocks and crisis better in the future and build community resilience.

What does the activity look like?

When a crisis affects people’s health or damage people’s homes, belongings or livelihood equipment or assets (seeds, animals, fishing nets, sewing machines etc.), it destroys the ability of people to access food or earn a living. Early Warning Early Action helps households and communities to identify potential hazards and prepare for the impacts of the hazards on people and their livelihoods. The activities here involve bringing people together to understand the shocks their community might face and to discuss how to prepare. It involves monitoring and spreading weather forecasts and other warning signs and helping community members to take preparedness actions before the impact of the hazard. The activities involve assigning responsibilities, practicing actions and, in the event of a shock or crisis, making sure everyone can do their part to help each other.
<table>
<thead>
<tr>
<th>What are the main benefits?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allows people to understand the shocks and risks facing their own families and communities and develop ways to avoid or address the impacts of these shocks and risks.</strong></td>
</tr>
<tr>
<td><strong>Helps people to understand and develop ways of coping with changes in the environment, such as erosion, unpredictable weather and climate change.</strong></td>
</tr>
<tr>
<td><strong>Learn about different people’s strengths and vulnerabilities and how to manage these to help each other as a group.</strong></td>
</tr>
<tr>
<td><strong>Understand the importance of monitoring weather forecasts and other signs of crisis that the community identifies.</strong></td>
</tr>
<tr>
<td><strong>Gain experience, skills and confidence to deal with shocks and risks.</strong></td>
</tr>
<tr>
<td><strong>Practice working together to manage shocks and risks.</strong></td>
</tr>
</tbody>
</table>
Key messages

01. Assess local risks – based on past events and future new risks.

02. Monitor signs of hazards and warning services.

03. Prepare and practice what to do when a warning is issued.

04. Communicate warnings and alert messages in your community.

05. Act early before the impact of the event to reduce injuries and losses and plan for what to do after the crisis.

“In 2000, the water just started rising. We panicked. We didn’t know what was happening. We just grabbed our children and ran. People lost everything. In 2007, we knew what was going to happen, so we felt much safer. We were able to prepare and make sure our families were safe.”

Anita Manissela, a member of the local disaster committee in Pambara Two, Mozambique (Source: IFRC)
Preparations

Timing tips

Early Warning Early Action can be a short activity to start with. It should then be practiced regularly. If an alert or warning is issued, then the plans and preparations are put into place. If the shock does not happen, the community should continue to review the plans and practice the actions!

**Early Warning Early Action** starts EARLY – when there is no disaster or crisis. It is best to start this activity at a time of year when people are not very busy. This could be weeks or months ahead of the typical high-risk times, for example well before the rainy season, cyclone season, or lean season.

Different types of hazard will require different planning at different times. This will depend on local warning systems that are already in place, and how long the actual event or crisis may last for. At the end of the section is a table called ‘Sample Timings for Early Warning Early Action’. This table provides some examples of how different hazards require preparation at different times.

What does the volunteer need to do before the activity can start?

1. **Find out if any preparedness activities already exist** - Always try to support existing preparedness and planning activities rather than establishing new ones. Establishing early warning systems is often part of larger programmes called Community Based Disaster Risk Management as well as Disaster Risk Reduction or Resilience. Where there are such programmes in a community, the Early Warning Early Action activities should try to support these existing programmes and be an important part of delivering them.

   However, in some cases there may be specific things that still need to be done, like helping a particularly vulnerable group of people to prepare or setting up a preparation or response system. Try to find out what you can do to add to and improve existing activities or to expand these activities to include the entire community and the most vulnerable groups.

Start the activity early and keep people motivated.
2. **Find out about the main risks** - Do some research in the community on the environment and the hazards and shocks the community experiences.

3. **Understand what people do to earn a living** and how these livelihoods have or may be affected by a shock or hazard. Get to know what people have done in the past when a shock affected their ability to earn, and what worked or didn’t work so well.

4. **Find out about sources of warning information** - Contact and make connections with organisations that can provide information about weather forecasts and warnings (for instance the hydro-meteorological department and the local disaster management department), or agricultural pests (agricultural department) or epidemics (health department). Find out what their warning systems are and register with them to receive information.

Follow the ‘Essential Guidance’ in the ‘Introduction’ of this handbook on how to organise meetings and groups, so that you can bring community members together and gain their trust and commitment. A good way to do this could be to present what you have found out from your research, ask the community what they think, and ask them to explain more and add more hazards that they know about.

### How to avoid risks

Be aware of people’s concerns and how to respond to them. Some of these concerns might include:

- **Concern that the information in early warnings is wrong** - Check the sources of information and cross-check this information with other information sources to make sure that it is correct.

- **Concerns that people’s reactions to warnings that may cause them to panic** - Evidence shows that if people are prepared, they are less likely to panic because they know what to do if a disaster happens.

- **Predicting hazards is uncertain** - If a shock does NOT happen, people can become careless and even distrustful of warnings, leading them to stop preparing for a shock. When issuing an early warning it is important to communicate clearly any uncertainty in the warning. If a warning was issued but the hazard did not occur, organise a meeting to understand the reason and make suggestions to improve the warning system for the future.

*Keeping people motivated is important and very valuable! It is better to be safe than sorry!*
Step 1  Research – ask key people about local risks

Step 2  Motivate – call a meeting to motivate people in the community to get prepared for shocks and stresses

Step 3  Understand risk – call a meeting to discuss the local risks

Step 4  Access or set up early warning systems

Step 5  Prepare a plan – call meetings to draw up plans with the community

Step 6  Inform everyone about the plans

Step 7  Practice and get ready – prepare to act and build response capacity

Step 8  Continually update and modify plans and keep them in a safe place

Step 9  Monitor – stay informed by checking early warning information

Step 10  Communicate warnings

Step 11  Act early

How to implement the activity?
Step 1: Research – ask key people about local risks

Volunteers talk to knowledgeable people and organisations to find out about existing preparedness plans and what types of shocks and stresses occur in the area, and when these shocks and stresses happen.

- Talk to people, like elders, NGOs, Red Cross and Red Crescent branch office or government staff who have experience of crisis management.
- Find out about as many of the local shocks and stresses as you can and educate yourself about them. This includes past events as well as new potential shocks due to climate change or other changes in the area.
- Connect other agencies or systems for Early Warning Early Action and discuss how you could link and collaborate with them.

Assessing risk based on past events.

Step 2: Motivate – call a meeting to motivate people in the community to get prepared for shocks and stresses

It is advisable to invite other people with experience of managing and dealing with hazards (e.g. government, Red Cross and Red Crescent staff, or non-government organisations).

Aim to cover these topics in the meeting:

- **What is Early Warning Early Action and what are the benefits?** Use the information at the start of this section as guidance.
- **Ask if a preparedness group already exists.** If there is an existing group, find out if there are any vulnerable groups who are not included and help to start a small group that addresses their specific needs. For instance, people with disabilities or elderly people may have particular needs during a crisis, but they can also make important contributions to Early Warning Early Action work!
- **Present your research information** on the types of shocks and hazards facing the community. Make sure you let people know that you want to hear their views on what shocks and hazards they face.
- **Ask people if they are interested in forming a group to prepare for shocks.**
Step 3: Understand risk – call a meeting to discuss the local risks

- **Ask many different people from the community to be present** - Different types of people face different shocks and hazards and will be affected differently and can respond differently. Elderly people, people with disabilities, the chronically sick, children, young people, men, women, farmers, fisher families, livestock owners, traders, city or village people, different religious or ethnic groups, or people who are poor or better off, will all be affected and be able to respond differently.

- **Ask people to identify the different shocks and hazards they face** - When these shocks occur, who do they affect and how are these people affected? You can find different exercises to help you with the discussion online in the IFRC Enhanced Vulnerability and Capacity Assessment toolbox: [www.ifrcvca.org](http://www.ifrcvca.org). One suggestion is to **draw a ‘hazard map’**. This is where the community are asked to mark on a map (on paper or on the ground) approximately where hazards and other shocks and stresses have occurred in the past in the community. What areas could be exposed to hazards, where do more vulnerable people live, where are key infrastructure or resources located (transport, communication, water, sewerage, power supplies etc) that people can use in a crisis? This helps you to identify where the people live who will require early warnings and may need help to take early action. You can try to do this by drawing a map on the ground or sand or on paper, like this:

![Hazard map of vulnerable people and places](image_url)
Step 4: Access or set up early warning systems

Based on your research on available sources of warning information, discuss and decide with the community what would be needed to improve their access to better early warnings.

- **Link to national early warning systems** - If your community is in a country that already has a national and regional or local Early Warning System (EWS), focus on connecting your community to the system. This might require setting up communication channels to: spread the warnings to people in the community that might otherwise not receive warnings on time; improve people’s understanding of what the forecasts and warnings mean; provide actionable messages and advice with the warning; and feed local weather or other observations back to the national system to improve its accuracy. Try to ensure that the early warning system covers all different sorts of hazards.

- **Set up community warning systems if needed** - If the community is located in an area which is not being monitored by any existing early warning systems or the system is not accurate enough at the local level, the community can choose to improve the existing system or set up their own system. Ask ‘What are the signs a hazard is coming? What indicators could we monitor and watch to prepare for a threat or a disaster?’ For example, the community could check river levels for flood warnings, or set up a watch group for wildfires during the dry season.

- Try to link the community early warning and early action activity to any national system. The community can monitor conditions in their location and send this information to be included in national information gathering. This can improve the accuracy of national forecast and warning systems.

- **Top tips for communicating early warnings:**
  
  ? **WHEN** to alert? Know the danger levels! Monitor hazard indicators and weather forecasts and know when things become dangerous. The earlier the warning, the better we can prepare.

  ? **WHO** needs to hear?

  ? **HOW?** Establish communication channels and assign roles and responsibilities.

  ? **WHAT?** Clear messages combined with advice that is easy to act on and tailored to different lead times (weeks, days, hours) and people (e.g. for leaders, for volunteers, for community).

  ? **WHICH?** Start with the most important hazards first but then move on to including all the other types of hazards that are important to your community.
Step 5: Prepare a plan – call meetings to draw up plans with the community

- **Select and focus on the most important hazard** - It is best not to try to do too much at first, so you are advised to ask the community to select a hazard to work on. The information on ‘Community Action Planning’ in ‘Essential guidance’ in the Introduction has useful ideas.

- **Decide step by step plans for what actions to take before the hazard happens** – One year before, three months before, one month before, one week before, one day before, one hour before (see the table on Sample Timings for Early Warning Early Action at the end of this section).

- **Make plans for what actions to take when the hazard strikes** - During and after the disaster, at the individual household level and at the community level.

- **Identify who should be responsible for different actions** before, during and after a disaster. Have a backup plan: if someone is away from the community, hurt, or injured, make sure someone else has been prepared to take on their role.

Step 6: Inform everyone about the plans

Make sure that as many people as possible are aware of the plans, including those in the household, in your community, in neighbouring communities and the authorities. You should also:

- **Enlist people to help** with monitoring, gathering information, following-up, communicating about plans, warnings and instructions, and supporting any of the preparedness and response actions!
Step 7: Practice and get ready – prepare to act and build response capacity

- **Test the alarm** - alerting everyone before you test that there is not a real threat. Send out an alarm and test message and then check that everyone has heard it.

- **Practice emergency action drills** - You could carry out a practice evacuation where people are told it is not real, but that they should go to the safe evacuation place taking only what they would absolutely need. Ask them if they were able to find what they needed quickly. Did they take important documents? How could they plan so that they are ready more quickly?

- **Discuss preparation plans** - Check that everyone has prepared what they said they would prepare. This could be keeping a store of extra food or water, harvesting water, clearing drainage, saving money, storing their documents in a safe and water-proof place, or applying different farming methods to protect their crops (see links to other activities in the handbook).

- **Prioritise** by discussing what needs to happen first, second and so forth. Saving lives must be a priority – property and other assets can be replaced but lives cannot! Discuss what to do to protect properties and fields and assets such as vehicles and tools.

- **Build up your resources** and capacity – Secure safe places, keep a stockpile of materials and food, build emergency shelters, put up signs to show people where to go if there is an emergency, gather communications equipment (including pen and paper) and store it in a safe place where people can get to. Request Red Cross and Red Crescent volunteers, lead farmers or other organisations to provide trainings on skills that are useful in emergency situations such as first aid, hygiene, or improved farming methods etc.

- **Check in with people who have agreed to take on specific tasks or responsibilities.** Ask them if they are still happy to do this. Ask them to recite/explain any emergency procedures that have been agreed in the plan. Check that they have what they need (e.g. a mobile phone and spare charged battery, any keys to access safe spaces etc.).

As everyone gathers more information and skills, they will become more experienced and plans may need to change. Make sure people agree with changes and keep records of changes. Remember to communicate these changes to the community and to any other agencies which you have been in contact with. Keep the plans in a safe place!
Step 9: Monitor – stay informed by checking early warning information

There is usually a lot of early warning information available. Try looking for:

- **Weather information and forecasts from:** noticeboards, weather stations, radio or television reports, newspapers, mobile phone apps, websites, or connect with government offices and extension workers who may know about how to receive information or warnings by text message on mobile phones or other means. The ‘Further Resources’ at the end of this section lists reliable early warning information websites and resources.

- **Health information** in bulletins or from health workers.

- **Agricultural or livestock related forecasts** from government agricultural or livestock offices, the United Nations Food and Agriculture Organisation (FAO), Non-Governmental Organisations (NGOs) or agricultural and livestock related businesses like seed merchants or Agro-Vet shops.

- If you have set up your own community early warning system, ensure that someone is always assigned during high risk times to monitor the agreed indicators

- **Always check and confirm the information that you hear** – Rumours create unnecessary panic!

- **Stay connected** - If you have a computer or smartphone, find websites that have reliable information and sign-up for early warning information or apps.

“Local people save lives. They are the first to respond when disaster strikes. Well-informed communities save more lives. They are trained in early warning and know what danger signs to monitor and who to notify.”
Step 10: Communicate warnings

- **Use lots of different ways of communicating** such as alarm bells or sirens, megaphones, local radio, mobile phone messages, house to house runners, etc. Agree on a ‘communication tree’ that describes who will communicate with a fixed number of people, and then those people in turn will pass on the message to another fixed number of people, who will do the same, and so on, until everyone has received the message. Link with other volunteers in neighbouring communities by mobile phone to share information and warnings. Volunteers can set up their own SMS or WhatsApp groups to share warnings and information about hazards like heavy rainfall or rising river levels. SMS or WhatsApp groups can also be used to send requests for help to local, regional or national authorities.

- **Communicate clearly** - Forecasts and technical information are often communicated in scientific language, graphs or maps. They may contain data or percentages that people are not very used to reading. Try to slowly familiarise people in the Early Warning Early Action group with these kinds of information and explain the information in simple, clear and easy to follow messages and instructions so that people can make sensible decisions on how to respond.

- **Repeat** warnings as people often don’t always act on the first warning. Update warnings as soon as you get additional information or the situation changes.

Step 11: Act early

Communicate clearly and calmly. Mobilise families and communities as early as possible depending on the closeness of threat. Carry out the step by step plan you have agreed with the community:

- Inform the right people
- Get them to start preparing
- Don’t panic or let others panic!
- Respond
- When it is safe, contact relevant authorities and your Red Cross and Red Crescent contacts to establish communication and report on what has happened
- Help key people who have agreed to do specific tasks (rescue, clean up, distributions etc.) to carry out these jobs – if you planned well, then everyone should have a job to do, and every person should have a backup person to take over the job if that person is away or injured.
Things to watch out for

⚠ Support existing planning and preparedness activities rather than setting up new ones.

⚠ Stockpile immediate basic needs and supplies at the household and community level to ensure survival for up to a week. Keep checking if supplies are going out of date.

⚠ New people may join the activity at any time. You will need to re-cap and explain the plans so they are up to date and ready to respond.

⚠ Think about vulnerability! People with different needs are affected differently by hazards. Plan for these differences. For instance, ensure that households with elderly, pregnant women, or people with mobility problems or other disabilities have special plans.

⚠ Think about livelihoods! Prepare steps to help people protect their livelihood assets and recover their livelihoods if these are damaged by a disaster. Encourage savings which will help people manage the bad times (see Section 12 ‘Savings and Loans Associations’).

⚠ Think about plastics! Plastic is a very useful material that can provide cover, waterproofing and containers for anything that needs to be kept dry, like important documents. But plastics can also cause problems - when thrown away carelessly, plastics can block drains and prevent water run-off and cause flooding, or be eaten by livestock and kill them. Encourage people to dispose of waste safely.
Top tips

✓ Develop one central place for understanding, discussing and planning for all the hazards facing a community.

✓ Link the community with experienced people and organisations from outside of the community such as the Red Cross and Red Crescent branch, government departments, NGOs, national information sources etc.

✓ Make sure that the Early Warning group is action based and combines raising awareness with planning and practicing actual actions.

✓ Consider hazards across seasons – ask ‘What crisis or stresses occur in which seasons?’.

✓ In flood areas keeping things dry is important – encourage people to store valuables, documents or assets (seeds, poultry, livestock, fishing nets or sewing machines etc.) in places above the usual flood levels, or have a waterproof container called a ‘dry bag’ or a ‘grab bag’ for storing valuables, clothes and important documents.

✓ With droughts it can take a long time before the full impact is felt – monitor rainfall and the impacts of dry spells carefully and begin to take measures to protect the most vulnerable people and assets early. Many of the activities in Sections 1, 2, 3, 5 and 7 are useful in drought prone areas.

✓ Share early action ideas - share your ideas, action plans and examples of the benefits of Early Warning Early Action with neighbouring communities. This can help neighbouring communities know how to help each other before and after a crisis. Through sharing, communities also learn about each other and can help each other in the event of a crisis.

Key questions to ask:

? Do warnings reach all those at risk and most vulnerable including the most remote areas?

? Are the risks and warnings understood?

? Is the warning information clear and useable?

? Is there enough time between the warning and the disaster to take early actions?
Links to other sections in this handbook

- ‘Savings and Loan Associations’ (Section 12) encourages people to set aside money to help them through the bad times after shocks and hazards occur.
- ‘Safe Water, Sanitation and Hygiene’ (Section 8) will be especially important after floods or health hazards.
- Other activities in this handbook offer advice on reducing the stresses related to erratic weather and climate change such as; Section 1 ‘Gardens’; Section 2 ‘Compost’; Section 3 ‘Shaded Seedling Nurseries’; Section 5 ‘Improving Farming Practices- Identifying ways to overcome crop losses from drought, flood and other hazards’; Section 7 ‘Rainwater Harvesting and Conservation’; Section 10 ‘Reducing Fuel Needed for Cooking’.
- The communication systems and equipment used for disseminating early warnings can also be useful for spreading important messages about health and nutrition (Sections 8 & 9). This includes things like noticeboards, loudspeakers, texting and phone groups for making announcements about events or meetings.
Resources and skills needed

Volunteers will need access to the types of resources that are used for mobilising communities:

- A place to meet and ways to record decisions such as notebooks, poster paper and pens and writing up the plan.
- Ways to spread messages by themselves or by organising people into groups to spread messages faster (see image below). This can be word of mouth, house to house, noticeboards, e-mail or texting, radio announcements etc. Some early warning systems require an alarm method, such as flags, loudspeakers, bells, drums. Set up as many different ways of communicating as possible, to reduce the risk of one system failing.

- Safe places to post the preparedness and early action plans and to keep the plan dry, legible and ready for when it needs to be referred to or used. It can be worth making more than one copy to keep in two separate places.
- Access to good forecasting information and links to reliable sources of information, such as the meteorological services or the Red Cross and Red Crescent. It is important to have reliable information in order gain people’s trust. However, it is important to let people know that forecasts are based on probability and never 100% perfect and that no one knows exactly what the future will bring.
Are there any resources that are critical?

- Access to information such as forecasts and existing Early Warning Early Action initiatives is useful but you can still achieve a lot through good preparedness and being well organised.
- Forming a good group with strong leaders helps and linking the group to existing groups such as farmers groups or savings and loans associations helps to add stability.
- Good communications and coordination within the community and with local authorities.

Approximate costs

You do not need to spend money to help raise people’s awareness about how they can work together to reduce and respond to risks. Just talk to people! You might need some small expenses for paper and pens for recording decisions and plans.

Additional costs might be mainly for disseminating the early warning. Try to use existing communication channels rather than trying to set up expensive new equipment.

Other costs depend on the types of preparations that the community chooses to do such as stockpiling, and could be supported by different types of community activities, such as income generation activities, group savings or food storage schemes etc. Local organisations, NGOs or government schemes may be able to help with costs.

What skills or knowledge do volunteers need?

Volunteers will use their organising, communicating and facilitating skills to bring people together, facilitate discussions and connect with the different types of organisations that will help create an effective Early Warning Early Action system.

Where volunteers have computers or smartphones and access to the internet, this is extremely useful for monitoring forecasting websites and communicating with other agencies – however this is not essential to start early warning early action activities.
What skills do participants need?

No prior skills required.

Make the most of different people’s skills: Different people will bring different skills and knowledge to an Early Warning Early Action group and working with everyone to encourage participation according to their abilities is more important than defining specific roles at the beginning. What is important is that specific roles are identified and people agree to do them.

Train backups: It is always good to have more than one person trained and ready to do a task, in case people are away or injured during the crisis. So, if a person is no longer able or willing to do the role, have the backup person take the job, and you can start to train a replacement for the backup person.

What needs to be monitored or followed-up?

- The main monitoring required is the ongoing checking of forecasts and weather information to see when a hazard is becoming more likely to happen.
- Where local monitoring systems have been set up, it is important to monitor these regularly to check that they are still working and to use them to monitor any changes, such as the level of water in a river.
- During practice activities, it is useful to have a de-brief session to discuss how things went. Gather people’s ideas about how the practice can be improved next time and test and act upon these ideas.
This section lists useful websites for different hazard types. Check out relevant sources of early warning information:

- Weather forecasting services exist at regional and national levels. The IFRC and IRI Columbia University have set up a service that maps and provides information about weather events globally and regionally. The service includes tips on what communities can do in certain locations: http://iridl.ideo.columbia.edu/maproom/IFRC/FIC/

- Famine Early Warning Systems information: https://fews.net/

- Increasingly information is available via mobile phones, smart-phones / apps as well as computers. For example, anyone with a mobile phone can dial 3-2-1 and receive free updates in Madagascar and Mozambique on current weather information in local languages. The service also provides information about health, water, sanitation and hygiene, women’s and other issues, and it is being extended being extended to other countries soon.

- ‘Citizen science’ or ‘indigenous data gathering’ activities: communities and people can be powerful information or ‘data gathering’ sources that can gather local knowledge and create forecasts for droughts, floods, pest or disease hazards or other crises. Communities can use this data to track trends and changes for themselves.

- Risks exist in the surrounding environment and can be addressed through simple preventative steps such as cleaning up waste, repairing and securing water storage areas or building up natural barriers such as hedges or mangroves that provide windbreaks. See the ‘Flash Environmental Assessment Tool’.

### Sample Timings for Early Warning and Early Action

<table>
<thead>
<tr>
<th>Type of Hazard</th>
<th>1 Year or more before</th>
<th>Months before</th>
<th>Weeks / Days before</th>
<th>Hours before</th>
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<tbody>
<tr>
<td><strong>Floods</strong></td>
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<tr>
<td></td>
<td>- Monitor global forecasts (El Niño/ La Niña) and climate change predictions (e.g. sea level rise)</td>
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<tr>
<td></td>
<td>- If needed set up local rain and water level measuring devices (gauges)</td>
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<td></td>
<td>- Identify / update risks maps of potential impacts</td>
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<td></td>
<td>- Identify vulnerable groups and connect to other volunteers / groups</td>
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<tr>
<td></td>
<td>- Identify safe evacuation routes</td>
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<tr>
<td></td>
<td>- Prepare / stockpile supplies</td>
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<td></td>
<td>- Reduce risks e.g. planting trees, elevate and improving housing structures and storage, dig drainage, or barriers etc.</td>
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<tr>
<td></td>
<td>- Monitor regional &amp; national seasonal forecasts</td>
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<td></td>
<td>- Revisit contingency plans</td>
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<td></td>
<td>- Re-stock food / water treatment</td>
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<td></td>
<td>- Inform communities about possible risk and what to do if the risk happens</td>
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<td></td>
<td>- Recruit additional volunteers to monitor</td>
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<td></td>
<td>- Test communication channels for early warnings</td>
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<td></td>
<td>- If you have livestock or large animals that cannot be transported, create a raised area that animals can reach so that the animals can move to higher ground</td>
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<tr>
<td></td>
<td>- Monitor national forecasts and local rain or river water level gauges</td>
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<td></td>
<td>- Alert community members</td>
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<td></td>
<td>- Alert Red Cross/Red Crescent Branch office or other agencies / external authorities</td>
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<td></td>
<td>- Follow agreed steps in action plans</td>
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<td></td>
<td>- Put up signs with warnings</td>
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<tr>
<td></td>
<td>- Clear drains!</td>
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<tr>
<td></td>
<td>- Construct barriers to prevent floodwater from entering buildings and storage</td>
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<tr>
<td></td>
<td>- Prepare evacuation, mobilise volunteers</td>
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<tr>
<td></td>
<td>- Move vulnerable people to safe locations</td>
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<tr>
<td></td>
<td>- Consider early harvest of crops</td>
<td></td>
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<td></td>
<td>- Keep important papers, equipment, feedstock and other valuables above potential flood levels, using waterproof containers</td>
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<tr>
<td></td>
<td>- Prepare ‘dry-bag’ with essentials to take in case of evacuation</td>
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<tr>
<td></td>
<td>- Fill plastic bottles with clean water for drinking</td>
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<td></td>
<td>- Keep hazardous chemicals above expected flood level</td>
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<td></td>
<td>- Evacuate</td>
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<td></td>
<td>- Regular communications with trusted external sources</td>
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<td></td>
<td>- Unplug electrical appliances and disconnect heating and cooking or gas tanks</td>
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<td><strong>Storms/ Cyclone</strong></td>
<td>- Raise awareness on cyclone/storm risk in the community and changes due to climate change</td>
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<td></td>
<td>- Update risk maps</td>
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<td></td>
<td>- Reduce risks e.g. improve housing/shelters structures and roofs,</td>
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<tr>
<td></td>
<td>- Organise and train community for disaster response,</td>
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<td></td>
<td>- Identify vulnerable groups and connect to other volunteers / groups</td>
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<td></td>
<td>- Establish early warning communication system</td>
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<td></td>
<td>- Identify safe shelters</td>
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<td></td>
<td>- Monitor seasonal forecasts</td>
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<td>- Revisit contingency plans,</td>
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<tr>
<td></td>
<td>- Re-stock food and water and other essential stocks,</td>
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<td></td>
<td>- Communicate increased risk</td>
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<td></td>
<td>- Test contingency plans with simulations and drills</td>
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<tr>
<td></td>
<td>- Inspect and repair roofs, trim trees and bushes</td>
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<td></td>
<td>- Refresh first aid skills</td>
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<td></td>
<td>- Monitor national forecasts and alert systems</td>
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<td></td>
<td>- Alert RC National Society</td>
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<td></td>
<td>- Prepare evacuation, mobilise volunteers,</td>
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<tr>
<td></td>
<td>- Warn the community and give instructions</td>
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<td></td>
<td>- Close storm shutters or board up windows from the outside, add hurricane straps to secure the roof, add sandbags on top to increase stability, clear rain gutters</td>
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<td>- Prepare/check emergency kits with batteries, torch, food supplies, radio etc.</td>
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<td>- Fill bottles with drinking water, and bathtubs and any large containers with water for sanitation</td>
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<td></td>
<td>- See flood actions above</td>
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<tr>
<td></td>
<td>- Evacuate to storm shelters</td>
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<tr>
<td></td>
<td>- Wait for all clear before supporting with first aid</td>
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</tbody>
</table>
### Health risk (malaria, cholera etc.)
- Identify vulnerable groups and connect to other volunteers/groups
- Set up communication with neighbouring communities
- Messaging on risk and prevention
- Coordinate with government health department
- Observation of risks (mosquito / dirty water etc.)
- Coordinate with government health department
- Update plans
- Prepare health care facilities
- Sensitise communities about risk, prevention, treatment e.g. use of bednets, handwashing, sanitation etc.
- Facilitate access to treatment
- Continue messaging on risk, prevention and treatment

### Drought
- Monitor global forecasts (El Niño/ La Niña) and climate change prediction and local environmental degradation
- Prepare community contingency plans
- Prepare community resources
- Set up savings / storage systems for food
- Connect with external agencies to get training on conservation agriculture practices
- Identify vulnerable groups
- Reduce risk e.g. set up water harvesting and conservation systems, plant trees, plant backyard gardens, manage grazing land, set up seed banks, crop diversification, etc.
- Monitor regional & national seasonal and monthly forecasts and local rain gauges and ground water levels
- Prepare community resources
- Secure savings / supplies
- Connect with external agencies
- Plant more drought tolerant crops and short cycle crops, use mulch
- Plant keyhole gardens
- Prepare fodder, or consider destocking
- Identify water sources and harvest and conserve water
- Monitor & record water availability / environmental factors
- Monitor crop status and production, livestock wellbeing, food prices and ground water levels
- Water conservation measures and simple drip irrigation
- Shade crops and use mulch and organic compost to keep soil moist
- Recycle household grey water for toilet, and for irrigation and keyhole home gardens
- Connect with external agencies
- Identify vulnerable groups
- Identify sources of support / food. Preserve and store dry food
- Plan de-stocking of animals before the crisis affects them seriously and use fodder and veterinary services to sustain the most important animals.
- Support households in finding emergency funds / loans
- Sensitise communities to prevent disease/epidemic outbreak through key messages on clean water and hygiene practices, nutrition etc.
- Cover windows and doors to keep heat outside, create natural ventilation flows, drink plenty of water.
- Monitor increased wildfire risks

### Wildfires
- Prepare community contingency plans
- Educate community members and children about fire hazards
- Reduce risk, e.g. plant shrubs and plants less likely to catch fire around houses to reduce fuel for a wildfire, install and maintain a lightning rod, keep enough distance between buildings, use fire-resistant building materials whenever possible, ensure electrical lines and cookstoves are installed safely, etc.
- Monitor temperatures and dryness of forest and bushes
- Inspect for local hazards, such as exposed firewood, leaf and brush clutter and dead and overhanging branches.
- Clear a firewall around community boundary and key crop fields (remove dead wood, dry leaves, needles, dense vegetation, prune trees and shrubs
- Check that all fire escape routes are clear.
- Avoid slash and burn agriculture and ensure all fires are controlled
- Set up community watch groups to protect houses while everyone else is out in the fields
- Prepare tools and material to control or put out the fire (buckets of sands, water, blankets, rake or shovel, ladder etc.)
- Never discard cigarette butts on the ground, clear outdoor areas of glass bottles and broken glass since this can reflect sunlight and start a fire.
- Raise the alert, mobilise volunteers and community to control or put out the fire
- If you are advised to evacuate, or if you think you are in danger, evacuate immediately
- If needed, take shelter in a nearby body of water or in a cleared area among an area of rocks. Lie flat, face down and cover your body with soil.

### Observation of risks
- Fire escape routes are clear.
- Avoid slash and burn agriculture and ensure all fires are controlled
- Set up community watch groups to protect houses while everyone else is out in the fields
- Prepare tools and material to control or put out the fire (buckets of sands, water, blankets, rake or shovel, ladder etc.)
- Never discard cigarette butts on the ground, clear outdoor areas of glass bottles and broken glass since this can reflect sunlight and start a fire.
- Raise the alert, mobilise volunteers and community to control or put out the fire
- If you are advised to evacuate, or if you think you are in danger, evacuate immediately
- If needed, take shelter in a nearby body of water or in a cleared area among an area of rocks. Lie flat, face down and cover your body with soil.
<table>
<thead>
<tr>
<th>Wildlife</th>
<th>Farm Pests</th>
</tr>
</thead>
</table>
| - Identify any dangerous areas (rivers / lakes)  
- Identify dangerous times of year  
- Coordinate with rangers / national parks  
- Lobby / advocate for enclosures / safe areas for animals | - Set up links with agriculture department(s), agric. stores  
- Know about hazards and monitoring signs  
- Prepare crop treatment / pest control plans |
| - Set up watch rotas on exposed fields and common wildlife routes/habitat  
- Map the hazards  
- Train people in safe wildlife management  
- Communicate about wildlife dangers and how to respond  
- Set up barriers (fencing, scare-crows etc.) | - Report any observed pests / hazards to agriculture department  
- Carry out good planting practices that reduce risks  
- Stock up on pesticides / prevention measures |
| - Report sightings of tracks, droppings, other signs of dangerous wildlife to authorities / rangers  
- Warn communities / homes of any dangerous wildlife  
- Ensure people do not go to dangerous areas, particularly at high risk times  
- Evacuate in case of an emergency! | - Report any crop damage  
- Put barriers in place  
- Follow instructions of agricultural extension workers / NGOs |


*Awareness session.*
“To start with it was just a few shillings, but it soon grew so I could buy chicks so I can eat more eggs to keep me healthy and sell some to pay for my medicines.”

A woman living with HIV/AIDS in Mozambique
Savings and Loans Associations

A Savings and Loan Association (SLA) is a group of people who come together to save money. This creates cash savings for the members themselves, which can help them to withstand shocks and stresses that affect their families. It can also create a pool of money that members can borrow to invest for income-generating activities, or to cover a short term crisis. A SLA is an informal, flexible and easy way of helping families to plan finances that is owned and run by the members of the group!

What does the activity look like?

Savings and Loan Associations (SLAs) are groups of people that come together to save money. Each SLA is made up entirely from people who want to take part and will have its own set of rules and agreements. SLAs are informal and do not usually require any official registration or licenses to start up. Members of SLAs contribute regular small amounts of money that are kept safely. The money saved can be borrowed by members for small unexpected or short-term needs, such as health costs or investing in livelihoods. At the end of the SLA cycle (which could be one year), the money that has been saved is distributed to the members according to their financial contribution to the group.

SLA groups often work together for a fixed amount of time. After 9 to 12 months, the group can continue saving, re-organise, or close and distribute the money saved back to its members. Re-organisation allows members to leave, new members to join, and/or the group to change their leaders, rules, or how they are organised (such as how much members save each week, or how much it costs to join the group).
What are the main benefits?

SLAs help people to set money aside to cover regular costs (like school fees), unexpected costs (like hospital fees), investments in income generation and livelihood production (like purchasing seeds).

SLAs are easy and flexible for members to join and use. Unlike banks, they offer members low or no fees and they do not require members to have formal documentation, or to be able to write and fill out forms.

SLAs can help people and communities to put money aside to overcome crises (like droughts or floods).

SLAs offer members the flexibility to contribute money when and as often as they can, and offer increased security and good rewards for saving.

SLAs help develop group decision making and organisational skills, and the types of community connections that are valuable for many other activities such as group buying and selling or responding to crises.

SLAs give members the opportunity to discuss diversifying their income generation strategies and increasing the productivity of their livelihoods, through things such as cooperative buying and selling or adding value.

SLAs are a good first step towards building financial literacy and understanding how banking works.

Those who have gone through at least one cycle of SLA may also set themselves up as an agent, promoting SLAs to other communities for a small fee.
“I used the money I saved on buying less fuelwood after the Red Cross helped me make my own fuel efficient cookstove to help pay into the savings group. Eventually I bought some chicks with the loan and then sold eggs to help increase my savings.”

Woman in Niger

Preparations

Timing tips

Most SLAs run for a cycle of 9 to 12 months and then re-organise and re-start every year.

There are four steps to setting up and running a SLA:

Step 1 – Preparatory phase (week 1-4): Mobilising community members, identifying the group that wants to work together and communicating with leaders and potential members.

Step 2 – Start-up phase (2nd month): Group formation and member training.

Step 3 – Intensive phase (3rd month): Agreeing the group rules and start saving.

Step 4 – Mature phase (for around 8-9 month): Savings and loans administered by the group, regular record keeping, meetings and monitoring.

Step 5 – End of savings and loan cycle phase (after 9-12 months): Once the SLA comes to the end of a savings cycle, all the saved funds are distributed to members, who will often re-start the SLA.

SLAs can be set up and run at any time of year. However, it is best to start when people are not very busy with other activities, or early enough to build-up savings in time for the planting season or other income-generating activities that require funds.

How to avoid risks

The main risks associated with SLAs are corruption and theft of cash. It is critical to ensure that cash is locked in a heavy-duty cash box with at least three different keys held by different members. The cash box should be kept at another (fourth) member’s house that is safe. The location of the cash box should be changed from time to time, shared with as few people as possible and never shared with anyone outside the group! Remember that once the group is up and running, most of the money will be loaned out so the cashbox will not have much money in it! Eventually groups can investigate setting up formal accounts with banks, micro-finance institutions or mobile money if they want to.

An important safety activity is keeping good record books. These should be kept in a different safe place to the cash box and be kept up to date. If possible, a second copy should be kept in a separate place. Section 11 Early Warning and Early Action has guidance on keeping documents safe against hazards such as floods.

It is extremely important that the Red Cross and Red Crescent is not at risk of being involved in any financial mismanagement, corruption or theft, so it is essential that the volunteer is not a leader of the group, or a key holder for the cash box.
Step 1: Preparatory phase

Before starting the SLA, check if there are any existing SLAs in the community which people could join. If there is an existing SLA, but it is not possible for new people to join, it may be useful to ask the existing SLA group for advice, or to consider using a similar method to the existing SLA.

1. Check that there is a need and enough interest for a SLA.

2. Check if there are any government regulations about forming savings and loans groups.

3. If needed, get permission from government authorities, the local Red Cross and Red Crescent branch, the community or families.
4. Develop a set of messages that you will use to explain what a SLA is and why it can be helpful to people. You can use the information in the ‘What does the activity look like’ and ‘What are the main benefits’ sections above!

5. Follow the instructions in the ‘Essential Guidance’ of the ‘Introduction’ to this handbook, including calling a meeting of community members and reaching out to different types of people, including vulnerable people.

6. SLA members will need training (see the ‘Step by step activities’ below for details). Decide if the volunteers have enough knowledge and resources to deliver this training SLA. If not, decide who could help deliver this training and ask them for support.

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**Step 2: Start-up phase**

1. **Ask people** in the community if they would like to be involved in a savings and loans group. Allow people to choose whether or not to join.

2. **Accessing skills training** - Training and guidance is needed to set up new groups. At this stage you should identify trainers who can provide training on basic numeracy skills (if needed), record keeping, and on the rules and regulations of the group. The box below lists ‘Useful sources of information about SLAs’, and volunteers should search for good sources of information and training in their own country and from their Red Cross Red Crescent National Society or local NGOs. If as a volunteer you are new to setting up an SLA, you should attend training on group dynamics, on SLA management, and on basic book-keeping.
3. Organise the first SLA meeting (see the ‘Essential Guidance’ in the ‘Introduction’ to this handbook) and describe what an SLA is for and the benefits and risks. You should explain that:

- To work well, SLAs should not be too big or small. The recommended size is 10 to 25 members.
- SLAs can be set up for a particular group of people such as youths, women, people with disabilities or as mixed groups that can be for everyone in a community.
- SLAs may be linked to other projects which provide training or livelihoods support, such as the activities described in the other sections of this handbook.
- SLAs can also be linked to financial institutions, such as banks or micro-finance institutions, who can help keep the money safe in accounts.
- SLAs do not replace micro-finance institutions but complement them, providing easy access to financial services for people who often have difficulties reaching more formal organisations.

4. Resources - Explain that the SLA will need some resources (mostly notebooks, padlocks and a cash box - see the table at the end of this section) and discuss how the group will find or buy these resources. Confirm any agreements with community leaders or other officials.

5. Agree when the next meetings will take place and explain that several meetings will be needed for:

- Training on how to form the SLA
- Electing officials
- Deciding how to manage the SLA and set up rules
- Getting commitment from members, taking any membership fees and the first savings deposits.

6. Set up a training plan to outline what training will be given by which people and when this will happen.
Step 3: Intensive phase

1. **Agree rules and arrangements** - Each SLA needs to set up and agree on key rules or arrangements including:
   - How leaders are selected and how often (see Annex for guidance on ‘Voting or Election of Leaders’)
   - How often the group meets
   - Membership and attendance rules
   - Savings amounts and how saving is done
   - Loan amounts and how lending is done
   - How grievances or issues will be resolved.

2. **Draw up a constitution** - The group should come to decisions about how to run itself. These decisions should be written up in the group’s constitution by following the guidance in the ‘Constitutional Framework’ document in the Annex.

3. **Set up a passbook for each member** - The passbook records every time a member saves money, noting the date, how much was deposited, and any missed dates. The passbook also records the amount of any loans taken out, when it was taken out, and each time a payment is made against that loan. There are many ways of recording the information (see the example below) but it may be better to follow one that has proven successful locally.

4. **Set up a record book for the group** - The record book is used by the SLA to record how much is deposited, withdrawn and loaned by all of the members. It lists the date of each transaction, who the transaction was by, the amount and the type of transaction. The record book must be kept up to date, and the totals must be accurate and match with with the total amount of money in the cash box / savings account, plus any outstanding loans. It is advisable to keep a second copy of the record book in case it gets lost, stolen or damaged.
Step 4: Mature phase

Once the group has been set up, it will need to be managed and run regularly, efficiently and in a way that minimises risks of theft and corruption.

1. Each SLA meeting should be scheduled and announced in advance. Each meeting should follow an agenda and be chaired by one person (usually the Chairperson). Because the loan fund comes from the amount collected as savings and loan repayments, it is logical that the meeting be ordered in this way:
   - Savings collection
   - Loan repayment /service charge
   - Give out loans

2. Attendance should be recorded of everyone who comes to the meeting every time.

3. The main activities of each meeting should be recorded. For example, record the training that is provided (if any), any announcements or messages, any decisions made and any actions to be followed-up.

4. Each activity (share purchase, savings, loan) should be carried out separately. Carry out all the savings activities first, taking any savings from each member in turn. Take any loan repayments next. Then agree on and disburse (pay) any further loans.

5. Each transaction must be carefully and accurately recorded in each member’s passbook and in the group record-book.

6. The chair should summarise the meeting to everyone before members leave.
Step 5: End of savings and loan cycle phase

1. **Before the last meeting** - After regular SLA meetings were held for 9-12 months, a meeting is held to begin to close up the year’s activities. Remember, in order to have all the money for the final meeting, the last loan must be repayable by that last meeting. At this meeting the members:
   - Decide whether to continue for another year.
   - Work out how much savings each member has.
   - Work out the group’s profit (from any service charges collected) and how much is to be disbursed/paid to members (according to their savings or the constitutional arrangement).
   - Agree if any money will be put into any social fund, or a fund for use after a crisis. If so, this will probably need further meetings to discuss and agree how this will work.

2. **Final meeting** - All agreed pay-outs should be made in the last meeting, and the record books accurately balanced and closed for the year. Groups continuing to another cycle should re-open their books in the first meeting of the new cycle.

Things to watch out for

⚠ **Keep money safe and accounted for.** Take time to elect proper, respectable and trustworthy leaders, set fair rules and put in place a good system for keeping any funds safe. All this is critical before any savings are collected.

⚠ **Volunteers should never be leaders of the groups.** They should be neutral supporters ensuring that the process goes smoothly.

⚠ **Young people and young men especially are sometimes looking for very quick or short-term gains, instead of appreciating the gradual way in which SLAs work and contribute benefits.** They may require special management to make sure that if they do participate, they do so genuinely and are fair to others.
Top tips

✓ If there are already SLAs in the community, consider working with them. You can: get their help and advice; set up a new group for people who are not members; or find out if new members can join and how to do this.

✓ If there is an existing SLA that allows new members to join, consider helping more vulnerable households find ways to join the existing group.

✓ Keep meetings short, and after the initial training, increasingly let the group run their own meetings.

✓ Ensure that all group members understand very well the rules for what loans can and cannot be used for, and that the loan period and service charges are clearly stated and the same for everyone.

✓ Ensure that the group agrees on the conditions a member must meet in order to borrow money from the SLA.

✓ If there is a bank or micro-finance institution that is nearby, support the group to interact with the bank, find out about a group account and help them to set up such an account if the terms and cost are favourable for the group. Even if the bank is not a suitable place to store funds, the process of meeting and talking with the bank could be a very useful training exercise for some members. Some countries are connecting SLAs with mobile-banking like M-Pesa, where the money collected is stored in a mobile account.
Links to other sections in this handbook

- SLAs can invite volunteers to give talks or trainings – and become a good place to present and have members discuss messages about Safe Water, Sanitation and Hygiene (Section 8), Nutrition Awareness (Section 9) or any other activities in this handbook of interest to the group members. Try not to take on too much at once though!
- Some SLAs have found that running an activity like the one described in Section 10, Reducing Fuel for Cooking early, means that money and time saved from constructing home-made cookstoves can help people reduce fuel costs and have more spare cash for savings.
- Section 11 on ‘Early Warning and Early Action’ describes how SLAs can be a very important source of savings for a crisis.

Examples of activities elsewhere

SLAs have been used all over the world and are often called different names such as Village Community Banks, Revolving Fund and Merry-Go-Round schemes. Many NGOs support such schemes and there is often a lot of training material already available about how to start and run SLAs. Note that different NGOs may have different approaches to SLAs – and if in doubt check with your Red Cross or Red Crescent office about how to run the SLA!

Red Cross ‘Mothers’ Clubs’ incorporate savings and loans groups as part of their efforts to strengthen women’s resilience. The common funds allow women to access credit to meet household needs and as start-up capital for income-generating activities.
Resources and skills needed

What resources are needed to run the activity?

Most resources can be provided by the members, except a safe/lockable cash box (with 3 keys), which may have to be purchased. The resources needed are:

- A group notebook and pens to record people’s names, agreements made etc.
- Pens are better than pencils, as they are more permanent and it is harder for someone to make untrue changes to the records.
- A safe / deposit box with at least three keys (each key will be held by different people from different households).
- A notebook to be used as a ‘passbook’ (one per member) to record each member’s deposits, loans and withdrawals. Note some SLAs are less formal and do not have individual passbooks – but it is always good practice to have some form of record for each member to know how much they have saved.
- A record book and a back-up copy record book, to neatly and accurately record everyone’s deposits (and withdrawals / loans) in two places so that if one copy is lost, there is a back-up.

Approximate costs

The main cost is a safe or cashbox, 2 record books and pens. Members can usually provide their own notebooks to be used as passbooks.

What skills or knowledge do volunteers need?

- As a volunteer, the most important skills that you bring are clear communication, honesty and good facilitation skills. You will also need to understand the basics of book-keeping and be able to mobilise groups.
- In areas where there are micro-finance or banking facilities available, it is useful to talk to them to find out if and how it is possible to open a group account for the SLA. You can also see if they are willing to provide training to groups.
- If a volunteer can help groups understand the benefits and costs of using formal financial services, this can be very helpful.
What skills do participants need?

Members can join the SLA with very few skills, but they can learn many important skills when they participate in the group including:

- Group formation and management
- Record keeping
- Financial literacy
- Basic business skills such as record keeping

What needs to be monitored or followed-up?

The most important things for a volunteer to monitor are accurate record keeping and safe keeping of the money, by regularly checking:

- Number of beneficiaries and how often they take part.
- Accuracy of entries into record books of a) the SLA group and b) of each member.
- Total amounts saved, loaned and returned.
- When people leave or ‘drop-out’ from the group and reasons why, which can help you identify any problems in the group.

Further Resources

Useful sources of information about SLAs

- VSL Associates http://www.SLA.net
Part three

The Annex

Structure

a. Acknowledgements
b. Acronyms and abbreviations
c. Tables, diagrams and other resources referred to in the handbook (organised by section)
d. Useful resources (organised by section)

a. Acknowledgements

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Thanks also to ‘Action Against Poverty’ (aptuk.org.uk) and the innocent foundation for permissions to use some of the photographs taken by Sharon Truelove.

This guide was designed by Virginia Delgado, and copy-edited by Kimberly Safford.
b. Acronyms and abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBO</td>
<td>Community based organisation</td>
</tr>
<tr>
<td>CBDRM</td>
<td>Community Based Disaster Risk Management</td>
</tr>
<tr>
<td>CEA</td>
<td>Community Engagement and Accountability</td>
</tr>
<tr>
<td>DRM</td>
<td>Disaster Risk Management</td>
</tr>
<tr>
<td>DRR</td>
<td>Disaster Risk Reduction</td>
</tr>
<tr>
<td>EWEA</td>
<td>Early Warning and Early Action</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agricultural Organisation of the United Nations</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
</tr>
<tr>
<td>HH</td>
<td>Household</td>
</tr>
<tr>
<td>IFRC</td>
<td>International Federation of the Red Cross</td>
</tr>
<tr>
<td>MFI</td>
<td>Micro-Finance Institution</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>PWD</td>
<td>People with disabilities</td>
</tr>
<tr>
<td>PLWHA</td>
<td>People living with HIV/AIDS</td>
</tr>
<tr>
<td>RCRC</td>
<td>Red Cross Red Crescent</td>
</tr>
<tr>
<td>SLA</td>
<td>Savings and Loan Association</td>
</tr>
</tbody>
</table>

c. Tables, diagrams and other resources referred to in the handbook

Introduction: Voting or Election of Leaders

There are several simple ways for electing a group leader or voting on a decision. Be clear that at least two people or choices need to be nominated and where possible a mix of men and women should be considered.

- **Vote by hand raising**: Ask the candidates to leave the meeting space and ask people to raise their hand in favour of their preferred candidate. People may only raise their hands once.

- **Standing vote**: Ask the candidates to leave the meeting space and ask people to stand next to a sign / symbol representing their favourite candidate.

- **Casting vote**: Set up a tin or can that represent each candidate. People are given one token / coloured piece of paper / painted stone to place in the tin that represents their favourite candidate.
- **Secret ballot**: in some circumstances groups may decide they don’t want people to know who they are voting for. In this case consider following the instructions below:

The group nominates up to four candidates for each position or role in the group¹.

- Each candidate is given a coloured card.
- Coloured ballot boxes (or bags) that match the candidates coloured cards are set up in a private area for voters to cast their votes.
- One by one, voters go to the screened off area that contains the coloured boxes and place their ballots anonymously.
- Votes are counted and winner announced.

The process will be repeated until all positions are filled.

Once a person is selected for one role, they cannot be chosen or nominated for another.

---

¹Adapted from IRC 2012. VSLA Facilitator’s Guide.
Section 8 Safe Water, Sanitation and Hygiene: Visual aid on the Three Pot Method

This image shows how to carry out sedimentation using the three pot method, to reduce dirt and germs that cause disease by storing water in containers, allowing dirt to settle, and then moving the cleaner water to different containers over time.

The three pot method

Each day when new water is brought to the house:
A. Drink water from pot 3.
B. Slowly pour water stored in pot 2 into pot 3.
C. Wash out pot 2.
D. Slowly pour water stored in pot 1 into pot 2.
E. Wash out pot 1.
F. Pour water collected from the source (bucket 4) into pot 1. Strain through a cloth if possible.

Allow the water to settle for a day and then repeat the process.

Only drink water from Pot 3. This water has been stored for at least 2 days, and the quality has improved. Periodically this pot will be washed out and may be sterilized by scalding with boiling water.

Using a flexible tube to siphon water from one pot to another disturbs the water less than pouring.

Tip: This method can be improved by using a straining cloth when pouring into the pots.

IFRC (2008) Household water treatment and safe storage in emergency
(https://ifrcwatsanmissionassistant.wordpress.com/water/)
HOW TO BUILD A TIPPY TAP

1. Dig two holes 18" in deep and about 2' apart
2. Place the forked sticks, ensure they are level
3. Fill holes with soil & rocks, and pack tightly

3. Heat the nail and make holes in the water container
4. Make a hole in the soap and thread string
5. Hang container and soap on cross stick and place on supports.

6. Fill container with water and attach string.
7. Attach other end of string to foot lever stick
8. Make gravel basin between sticks to prevent muddy area

You can find this poster online in English and other languages (Hindi, Marathi, French, Portuguese, Spanish, Afrikaans, Swahili, Kinyarwanda) at: http://www.tippytap.org/build-a-tippy-tap-manual
## Section 9 Nutrition Awareness: Four Food Groups Table

This table explains the four basic food groups that make up a healthy diet:

<table>
<thead>
<tr>
<th>Four basic food groups* (for a healthy diet choose every day from each group)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staple foods (starches) – energy</strong></td>
</tr>
<tr>
<td>• Grains and cereals</td>
</tr>
<tr>
<td>– wheat, sorghum, rice, millet, maize/corn, teff, etc.</td>
</tr>
<tr>
<td>• Products made from grains</td>
</tr>
<tr>
<td>– bread, noodles, tortillas, chapattis, pasta, polenta, couscous, rice cakes, etc.</td>
</tr>
<tr>
<td>• Tubers and roots</td>
</tr>
<tr>
<td>– cassava/manioc, potatoes, lotus, yams, taro, etc.</td>
</tr>
<tr>
<td><strong>Vegetables and fruits – micronutrients</strong></td>
</tr>
<tr>
<td>• Vegetables</td>
</tr>
<tr>
<td>– green leafy and orange vegetables: spinach, cabbage, lettuce, fresh green herbs, chard, amaranth, carrots, pumpkin, tomatoes, red peppers, etc.</td>
</tr>
<tr>
<td>• Other vegetables: okra, cauliflower, broccoli, onion, radish, mushrooms, eggplant (aubergine), etc.</td>
</tr>
<tr>
<td>• Fruits</td>
</tr>
<tr>
<td>– orange fruits: papayas, mangos, pomegranates, etc.</td>
</tr>
<tr>
<td>– other: dates, citrus fruits, avocados, melons, apples, guavas, berries, plums, etc.</td>
</tr>
<tr>
<td><strong>Meat/animal products and legumes/nuts – proteins, micronutrients</strong></td>
</tr>
<tr>
<td>• Pulses, green beans and peas: chickpeas/cowpeas, kidney beans, soy beans, lentils, green peas, etc.</td>
</tr>
<tr>
<td>• Products from beans:</td>
</tr>
<tr>
<td>– tofu/soy curd, bean sprouts</td>
</tr>
<tr>
<td>• Nuts and seeds:</td>
</tr>
<tr>
<td>– groundnuts, almonds, cashews, sesame, etc.</td>
</tr>
<tr>
<td>• Fish and shellfish</td>
</tr>
<tr>
<td>• Meat, insects and game</td>
</tr>
<tr>
<td>• Poultry</td>
</tr>
<tr>
<td>• Eggs</td>
</tr>
<tr>
<td>• Dairy:</td>
</tr>
<tr>
<td>– milk, yoghurt, curds and cheeses, dried milk powder</td>
</tr>
<tr>
<td><strong>Fats – energy, vitamin A</strong></td>
</tr>
<tr>
<td>• Butter, ghee and margarine</td>
</tr>
<tr>
<td>• Vegetable oil (fortified with vitamin A)</td>
</tr>
<tr>
<td>• Oily seeds:</td>
</tr>
<tr>
<td>– sunflower seeds</td>
</tr>
</tbody>
</table>

* Suitable for Africa, Americas, Asia, Europe and the Middle East, but can be adjusted to suit specific geographical context.

IFRC Nutrition Guidelines, 2013
CONSTITUTION FRAMEWORK

HOW THE ASSOCIATION WILL GOVERN ITSELF

I. BASIC INFORMATION ON THE ASSOCIATION
   • Name of the association?
   • Address of the association?
   • Date the association was formed?
   • Date of registration, if any?

II. OBJECTIVE OF THE ASSOCIATION
   • The purpose of the association is to be an independent, profitable provider of financial services to its members.
   • The association will provide saving, loan and insurance services to its members.

III. RELATIONSHIP TO EXTERNAL SOURCES OF FINANCIAL SERVICES
   • The association will not borrow from financial institutions during the first cycle of savings and lending. If it does so in subsequent cycles, it will follow these principles:
     - The association must be the borrower and not individual members.
     - The association will not allow the lender access to information on individual loans.
     - Members' savings cannot be used as collateral for an external loan.
     - Any borrowing by the association must not exceed the total value of all members' paid-up shares.

IV. WHO MAY BE A MEMBER OF THE ASSOCIATION?
   • Age limit?
   • Gender restrictions?
   • Residency requirements?
   • Other common circumstances?

V. COMPOSITION OF THE MANAGEMENT COMMITTEE
   • Chairperson?
   • Record-keeper?
   • Box-keeper?
   • Money counters (two)?
   • Key holders (three)?
VI. ELECTION PROCEDURES
- How many terms can one person serve on the management committee?
- Elections must be held at the start of each new cycle.
- What is the minimum number of members who must be present to hold an election?
- The election procedure will use a system that allows everyone’s vote to be secret.
- The minimum number of people that must stand for each position is two.
- A candidate for election to a post must be proposed for office by another member.

VII. REMOVAL OF COMMITTEE MEMBERS FROM THEIR POSITION BETWEEN ELECTIONS
- Any member of the General Assembly can request a review of a member’s suitability to sit on the management committee. If a majority of the members decide that the person should be removed from the management committee, the member must step down and another member be elected to the same position.

VIII. MEETING
- The association will meet every week to mobilize savings and disburse loans.
- The cycle of meetings will continue for a maximum of 52 weeks before the association shares out its assets

IX. MEMBERS LEAVING THE ASSOCIATION
- If a member leaves the association because he or she has no alternative (such as moving out of the area) how will the association calculate how much he or she be paid?
- If a person leaves the association before the end of the cycle for no legitimate reason, how will the association calculate how much he or she be paid?
- If a person is expelled for failing to make regular share-purchase/savings deposits, how will the association calculate how much he or she be paid?
- If a person is expelled for failing to repay a loan, how will the association calculate how much she or he be paid?

X. EXPULSION FROM THE ASSOCIATION
- For what reasons should a person be expelled from the association?

XI. DEATH OF A MEMBER
- If a member dies how will the association calculate how much money should be given to his or her heirs/survivors?
XII. FINES

- The following table lists the fines that can be charged for offences committed by members.

<table>
<thead>
<tr>
<th>OFFENCE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-attendance at a meeting for personal reasons</td>
<td></td>
</tr>
<tr>
<td>Lateness to meetings</td>
<td></td>
</tr>
<tr>
<td>Failure to memorize association rule</td>
<td></td>
</tr>
<tr>
<td>Chatting through proceedings</td>
<td></td>
</tr>
<tr>
<td>Showing disrespect to a fellow member</td>
<td></td>
</tr>
<tr>
<td>Failure to remember decisions and activities of the preceding meeting</td>
<td></td>
</tr>
<tr>
<td>Failure of a management committee person to perform his or her duties</td>
<td></td>
</tr>
</tbody>
</table>

XIII. AMENDMENTS TO THE CONSTITUTION

- Two-thirds of members must agree before the constitution can be altered.
- Any member of the General Assembly can propose a change to the constitution.

SERVICES OFFERED BY THE ASSOCIATION

I. SAVING

- Members may buy – one to five shares each meeting.
- What will be the value of a share?
- Members may contribute an equal agreed-upon amount at the start of every future cycle to speed up growth of the loan portfolio. The amount can be more than five shares if all members agree.

II. LENDING

- Only members are eligible to borrow.
- The maximum amount a member can borrow is three times the value of her shares.
- The maximum length of a loan term is four weeks during the first cycle.
- A member must repay a loan before she or he can take out another.
d. Useful Resources

In this section you will find a list of additional resources, including links to trainings, guidance documents and websites, where you can find more information about the topics covered in this handbook. It is arranged by section, in the same order as the handbook.

A large number of references informed this handbook, but those listed here are primarily those considered suitable for volunteers to refer to and are accessible online.

Introduction

This website contains a range of learning materials, tools and guidance to help you better engage the community in activities:


To learn more about the Red Cross Red Crescent approach to community engagement, see:


To learn more about the Red Cross Red Crescent approach to making communities safer, stronger, and more resilient see:


To learn more about the Mothers’ Club approach that promotes women’s resilience and empowerment through savings and loans, community sensitization activities on different themes and income-generating activities, see:
Section 1. Gardens
To see how to build a keyhole garden, watch the video from Baphalali Eswatini (Swaziland) Red Cross Society supported by Finish Red Cross


Section 2. Compost
For further details on how to train others about composting, refer to:


Section 3. Shaded Seedling Nurseries
Further details on seedling nurseries can be found here:


Section 4. Homemade Liquid Fertilisers
Training material and booklets on organic fertiliser and soil fertility management for farmers are available in English, French and Swahili here:


Section 5. Improving Farming Practices (Identifying ways to overcome crop losses from drought, floods and other hazards)
For more information on climate smart agriculture, which is an approach to adapting agriculture to climate change, see:


Section 6. Lead Farmers and Demonstration Farming
This document explains how lead farming and demonstration has been effective in Rwanda, and has lots of guidance on different techniques including compost and fertiliser:


For more information and guidance on the lead farmer and demonstration farming approach, see:

Section 7. Water Harvesting and Conservation
For tips on how to work with the community, you could refer to the booklet:


Technical details on how to construct roof water harvesting using different types of materials is available from:


For more advice on how to conserve water and soil nutrients, you could refer to the booklet:

http://www.organic-africa.net/training-manual.html

For advice on how to choose the best landscape intervention to protect your soil and preserve water, see:


For more information on run off rainwater harvesting you could look at this guidance:


Section 8. Safe Water, Sanitation and Hygiene
For more detailed information on safe water, volunteers are encouraged to read:


This document is also available in: French, Spanish, Chinese (Mandarin), Kiswahili, Vietnamese, Malay, Nepali, Burmese, Bahasa, Pidjin (PNG, Solomon Islands and Vanuatu), Tamil, Arabic, Bengali (India), Bengali (Bangladesh), Hindi, Somali and Kirundi (Burundi), at:
https://ifrcwatsanmissionassistant.wordpress.com/water/

For an illustration on how to construct a tippy tap for handwashing in English and other languages see Tippytap.org: http://www.tippytap.org/build-a-tippy-tap-manual

Section 9. Nutrition Awareness
The IFRC ‘Nutrition Guidelines’ is a good reference guide on nutrition. It is recommended that volunteers try to get a copy from the relevant person at national headquarters, or try to print a copy, to learn from. It can be found online at:


This document has a lot of useful messages and good pictures that you could copy and use to teach people about nutrition:


Here is a short on-line video in English showing an example of promoting work with community to integrate the key family practices:

Section 10. Reducing Fuel for Cooking
For more types of energy efficient cookstoves and an example from Namibia Red Cross Society see:

- Global Alliance for Clean Cookstoves. The clean cooking catalog
  http://catalog.cleancookstoves.org/stoves


Section 11. Early Warning and Early Action
The following toolkits and training materials can help you to train yourself and others on early warning and early action:

  https://www.preparecenter.org/topics/community-early-warning-systems-training-toolkit
- Red Cross Red Crescent Climate Centre. Training Module on Early Warning Early Action.
  https://www.climatecentre.org/training/module-2/subitem-2a

This website provides examples on early warning systems in the Caribbean:
- IFRC and CDEMA. Early Warning System Toolkit. https://www.cdema.org/ews/

Weather forecasting services exist at regional and national levels. The IFRC with IRI Columbia University have set up a service that provide 3-months and 6-day forecast maps and information by region and globally including tips on what types of early action communities can:


The FAO Quarterly Early Warning Bulletin integrates information on threats to the food chain and food security for the three months ahead:

- FAO. Food Chain Crisis Early Warning Bulletin.

For country specific Famine Early Warning Systems information refer to FEWS NET: https://fews.net/

Step by step guidance and toolkit on how to conduct vulnerability and capacity assessments with the community is available here:

- IFRC Enhanced Vulnerability and Capacity Assessment toolbox https://www.ifrcvca.org

For action-oriented key messages on risk reduction for households and schools by hazard see:

- IFRC. Public Awareness and Public Education for Disaster Risk Reduction
  https://media.ifrc.org/ifrc/messages-disaster-prevention/#3

This toolkit will help you to educate children on disaster risk:

- UN Office for Disaster Risk Reduction 2004. Let’s learn to prevent disasters: educational kit and riskland game.

Section 12. Savings and Loans Associations
For more in depth information on how to run savings and loans associations, see:

Easy Volunteer Actions: A handbook for supporting disaster-prone communities with food security and livelihoods activities

The handbook presents 12 activities that can help increase food security and help strengthen livelihoods. These are:

<table>
<thead>
<tr>
<th>Gardens</th>
<th>Water Harvesting and Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compost</td>
<td>Safe Water, Sanitation and Hygiene</td>
</tr>
<tr>
<td>Shaded Seedling Nurseries</td>
<td>Nutrition Awareness</td>
</tr>
<tr>
<td>Homemade Liquid Fertilisers</td>
<td>Reducing Fuel for Cooking</td>
</tr>
<tr>
<td>Improving Farming Practices</td>
<td>Early Warning and Early Action</td>
</tr>
<tr>
<td>Lead Farmers and Demonstration Farming</td>
<td>Savings and Loan Associations</td>
</tr>
</tbody>
</table>