

# FACILITATORS' FIELD GUIDE FOR FARMER FIELD SCHOOLS ON LOCAL FOOD PLANTS FOR NUTRITION

## Module: Improving nutrition



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# FACILITATOR'S FIELD GUIDE FOR FARMER FIELD SCHOOLS ON LOCAL FOOD PLANTS FOR NUTRITION

## Module: Improving nutrition

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All illustrations by Irene Cécile ([www.irenececile.com](http://www.irenececile.com)).

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## Introduction

This module has been designed to assist facilitators implementing activities that help farmers to improve their diets and nutrition, working as part of a Farmer Field School (FFS) on nutrition and local food plants.

The implementation phase can start as soon as the curriculum for the FFS cycle has been agreed. It is important that the FFS facilitators ensure that the materials required are available on time, organize the necessary logistics (e.g. infrastructure, field site), coordinate with experts and local institutions, and ensure that the budget will suffice for the implementation of all activities.

This document presents guidelines for food preservation, food preparation and cooking demonstrations, seed and food fairs, growing local food plants in home gardens, and creating school gardens. FFS facilitators and farmers, however, are encouraged to implement other activities not described in this module. The guidelines in this module are not written in stone. They can be seen as the key ingredients, rather than as the recipe that needs to be followed in a fixed order.

This document summarizes the information on FFS implementation of activities present in the chapter 7 of the [Field Guide](#). The FFS diagnostic phase has also been summarized in the [Online Course on nutrition and local food plants](#).

Other illustrated modules for the FFS on nutrition and local food plants are: Diagnostic Phase, Managing Plants, FFS End-of-cycle Evaluation, and Special Topics.

## Checklist for facilitators

### Preparation:

- Has the FFS carried out the diagnostic process?
- Do all FFS members agree with the research objectives and activities?
- What is the best time to conduct the activities?
- Has the most appropriate venue been selected (a site which is easy to reach for all community members)?
- When is the best time for the FFS group to ask support from external collaborators (i.e. extension service, agricultural department, nutritionists, health practitioners)?

### Acquisition of materials:

For food preservation activities and cooking demonstrations:

- What ingredients are required for the cooking demos and food preservation?
- Where and when can the FFS get the ingredients and utensils required for the activity?
- Who will be responsible for obtaining the ingredients and utensils?

For seed and food fairs, home gardens and school gardens:

- Where and when can the FFS get seeds of the local food plants for the home gardens and school garden?
- How many seeds will be needed?
- Who will be responsible for obtaining the seeds?





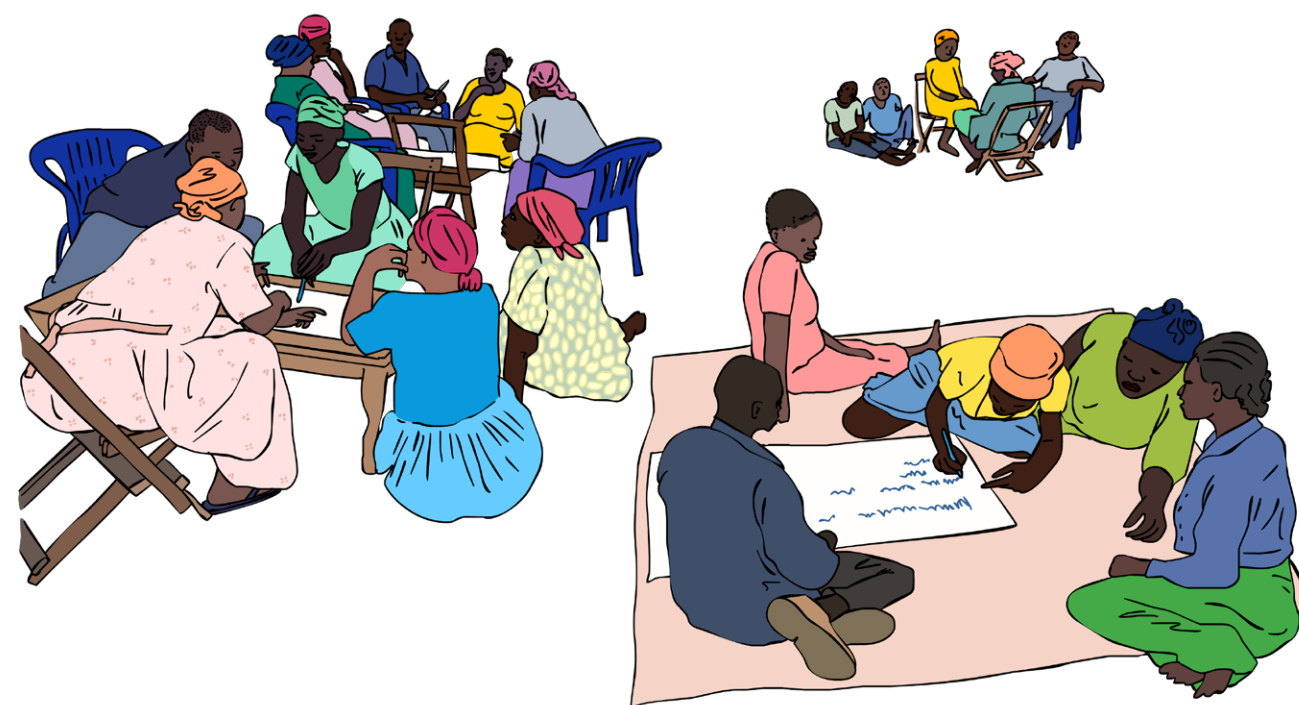
### Evaluation:

- When will the FFS organize the Farmer Field Day?
- How will the group evaluate the progress made, i.e. the improved nutritional levels amongst participants and in the community at large?

## Gender: women and men in the FFS

For any Farmer Field School to be successful, it has to respond to the needs of all participants – women, men, youth. Otherwise, if they feel that their interests are not being addressed, people will stop coming to the FFS sessions. The research objectives must cover the needs and preferences of women and men, and of all young participants. It is also important to organize the FFS in such a way that women, men and youth can participate equally in all activities, that the workload is fairly shared, that everybody's views and opinions are considered, and that decisions are taken by all. Even if this is not done in regular community life, it can be rewarding to address unfair or unproductive relationships between men and women within the FFS. For example, by ensuring that both men and women take leadership positions in the plenary group discussions and within the subgroups.

Choose meeting times that suit all participants and that interfere as little as possible with other family or household duties (childcare, cooking, market times).



## Food preservation

### Objectives:

To increase the availability of local food plants over a longer period of time, in particular during periods of food shortage, ensuring diverse nutritious meals year-round.

### Types of local food plants:

All food plants and their edible parts.

### Location for the activity:

Food processing can take place outside or in kitchens.

### Materials required:

Cooking facilities and utensils; ingredients such as sugar, salt, vinegar, oil; packaging materials (jars, cans); trays, solar driers, fans, electronic heating for drying.

### Stakeholders involved:

Experts from the food processing sector, chefs, and health workers.

### Description:

#### *First session:*

1. Opening questions: Write down the answers to each question in Form A, under 'pre-activity questions'. Also summarize the answers on a flip chart to keep engaged with all participants.
2. Discuss with the participants, **in plenary**, the benefits of food preservation for ensuring dietary diversity year-round, reducing cooking time, improving taste, and possibly improving nutritional content and safety.

3. Ask participants to describe the preservation techniques they already know, and to tell which one(s) they would wish to apply for the specific food plant(s) considered.

#### *Second session onwards:*

4. Provide protocols for the selected techniques, explaining the health risks involved and how to prevent them.
5. Let the participants apply the processing methods **in subgroups**. Each session may focus on one method, or different subgroups may apply different methods and then share their results.

#### *Final session:*

6. During this meeting, FFS participants will reflect on what has (and has not) been accomplished during the FFS cycle and why. Write down the results of the discussion in Form A, under 'activity evaluation'.

Based on the ideas and lessons drawn, plan those activities which the group would like to conduct in the next cycle to complement or continue the work, or return to the results of the diagnosis exercises to set new objectives.

### Background content:

For each method, food processing for preservation can be done in a couple of sessions, but a few weeks might be required before tasting the final product becomes meaningful. Many methods can be combined (see table on page 18).

Please note: the consumption of food items processed with salt, sugar or oil should be moderate.

The characteristics of the plant or of its edible parts should be

considered when choosing the preservation method, together with the local climate.

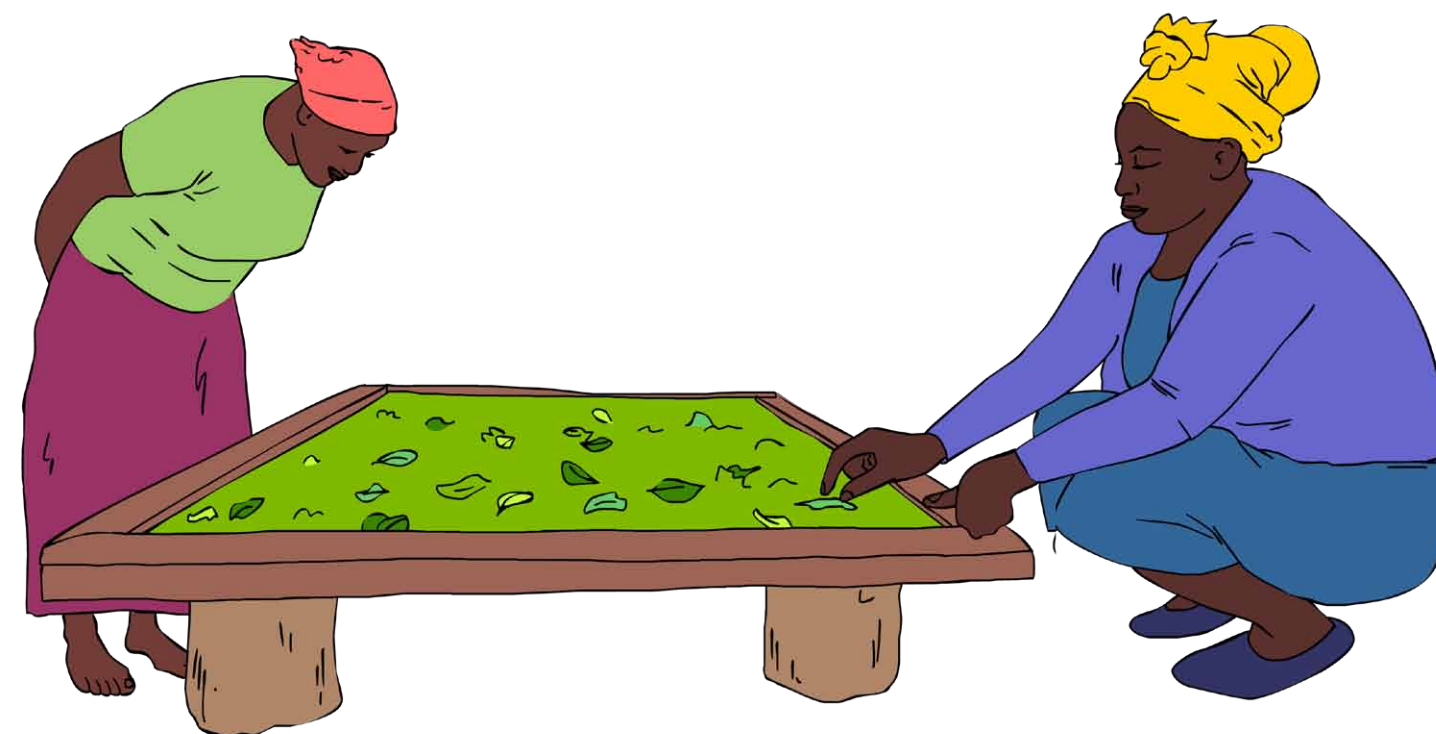
Various preservation techniques are provided below. Experts should be consulted for detailed procedures to prevent health risks, and to discuss the effects of treatment on the nutritional quality of the ingredients. Before starting the FFS session, participants should wash their hands, the cooking utensils and also the food plants, removing all the damaged parts.



- Blanching: this constitutes a pre-treatment for many kinds of other processing methods. Ingredients are cooked in hot water, removed after a short time, and then quickly cooled before further processing. Steaming instead of boiling can better preserve the nutritional content of food. Determining the right cooking time is

important to prevent pathogen proliferation (insufficient time) or nutrient loss (excessive time). Most microorganisms will be killed within minutes of boiling or steaming.

- Drying: this reduces the food water content, in turn preventing microorganism growth. Drying should start one or two days after harvesting. In some cases, drying can concentrate nutrients and improve food nutritional content. Dried products can be eaten as such or after soaking, or may alternatively be processed into powder. Some drying methods include:
  - Sun drying: food is exposed to wind and sunrays, if being distributed over a thin layer. It is a simple and effective method, but it reduces the nutritional content of food.



- Hot-air drying: hot air is provided with a fan and a source of heat.



- Solar drying: food is enclosed in chambers heated up by the sunlight and provided with an air inlet and outlet to ensure circulation. This method is more complex, but the advantage is that it prevents external contamination and it preserves the food nutritional content better than when sun drying.



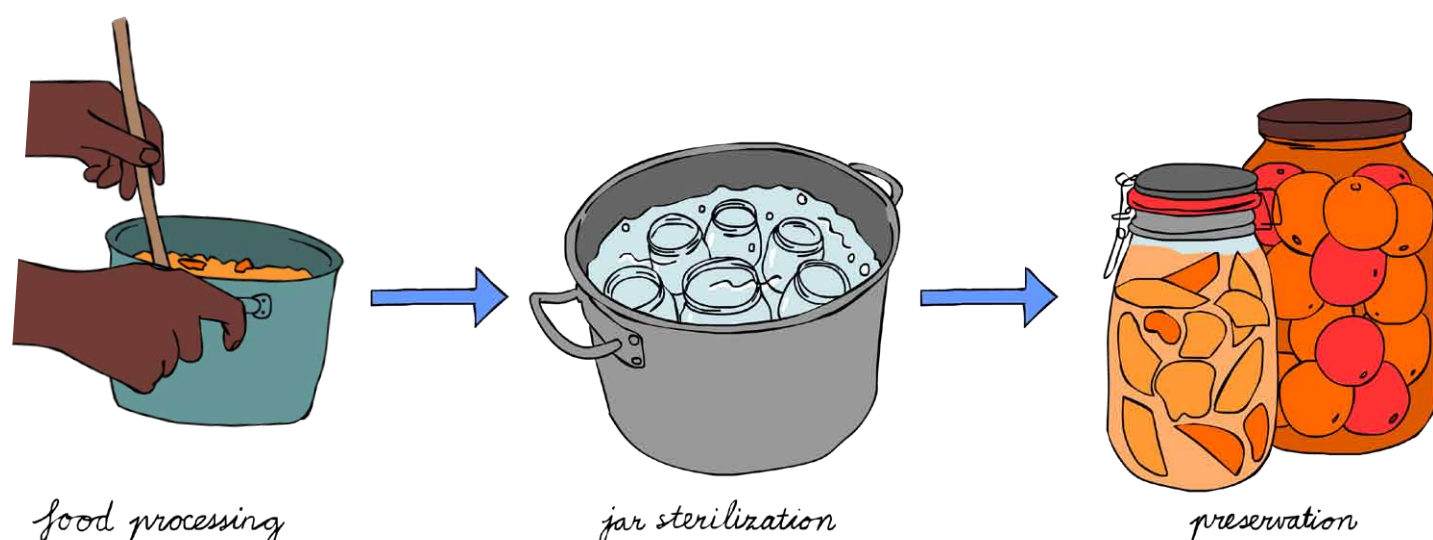
- Processing into flour: particularly applicable to tubers and cereals. Tubers and grains are dried and milled into flour used for baking or added to meals as such.



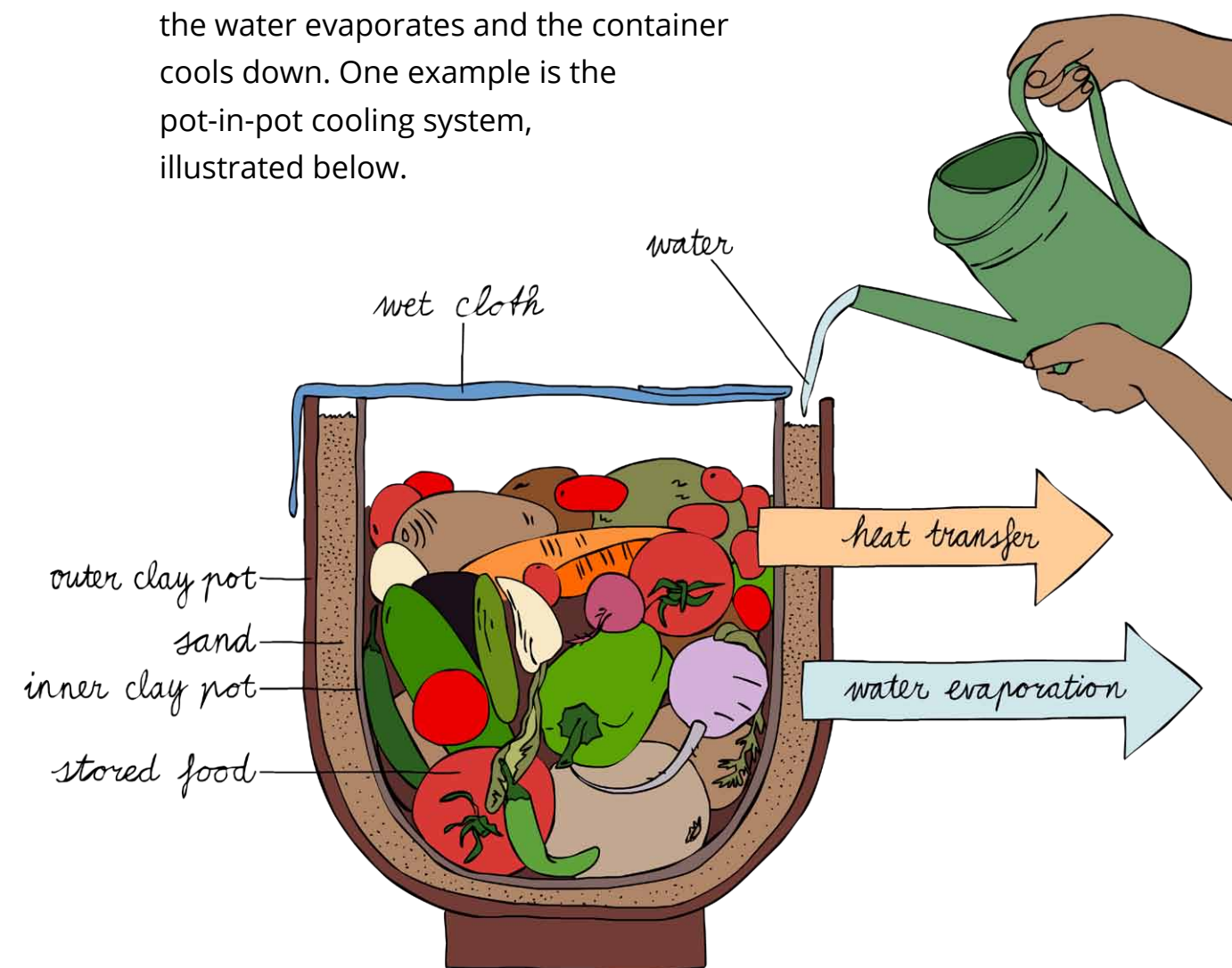
- Fermentation: under anaerobic conditions, microorganisms convert sugars into alcohol and/or acids, extending the shelf life of

food. Fermentation produces proteins, amino acids, and vitamins, improving the food nutritional value. Each product should be carefully checked as fermentation can go off (resulting from the action of undesirable microorganisms), resulting in bad taste or health risks.

- Osmotic dehydration: slices of food are immersed in a high-concentration solution of salt or sugar. This preserves the structure, texture, and color, while improving taste.
  - Salting: in wet salting (pickling), the food is rubbed in salt and then submerged in brine, vinegar, alcohol, or oil. In dry salting, the food is directly packed in salt.
  - Preparation of jams and jellies: fruits or sweet vegetables are boiled with high percentages of sugar, and the products are sealed in sterilized jars.
- Preservation in jars or cans: after processing, the produce is stored in containers which have been sterilized through boiling. Appropriate sterilization and using well-sealed containers are essential to avoid dangerous or undesirable microorganisms. If poorly carried out, this method can lead to botulism, causing severe and potentially fatal food poisoning. *Particular care is therefore needed for this processing technique.*



- Low-temperature techniques: to prevent microorganism development, reduce ripening, avoid water loss, preserve color, texture, and nutrient content. However, refrigeration systems are not always affordable, and not all products can be refrigerated.
- Evaporative cooling: The most common way to obtain evaporative cooling is by making air pass through a wet porous material which covers a food container, so that the water evaporates and the container cools down. One example is the pot-in-pot cooling system, illustrated below.



- Pasteurization: food is heated to a certain temperature and then cooled down. This alters the nutritional value, but less so than when boiling or steaming. The process needs careful temperature control.

Preservation method	Type of plant edible part amendable	Materials required	Location	may be combined with
<i>Blanching</i>	<ul style="list-style-type: none"> <li>Vegetables</li> <li>Fresh legumes</li> <li>Roots and tubers</li> </ul>	<ul style="list-style-type: none"> <li>Access to heat</li> <li>Pots, jars</li> </ul>	Kitchen	Drying, fermentation, wet salting, preservation in jars
<i>Drying</i>	<ul style="list-style-type: none"> <li>Fruits</li> <li>Vegetables and herbs</li> <li>Cereals, legumes, seeds</li> </ul>	<ul style="list-style-type: none"> <li>Drying trays</li> <li>Solar driers</li> <li>Fans and stoves/heating</li> </ul>	External or internal	Blanching, processing into flour, dry salting
<i>Processing into flour</i>	<ul style="list-style-type: none"> <li>Tubers and cereals</li> </ul>	<ul style="list-style-type: none"> <li>Mill/pestle or mortar</li> </ul>	Under shed	Drying
<i>Fermentation</i>	<ul style="list-style-type: none"> <li>Fruits and fruit juices</li> <li>Vegetables</li> <li>Legumes, cereals, seeds</li> </ul>	<ul style="list-style-type: none"> <li>Food containers and jars</li> <li>Salt, sugar, vinegar</li> </ul>	Kitchen	Blanching, wet and dry salting, preservation in jars, osmotic dehydration
<i>Wet salting</i>	<ul style="list-style-type: none"> <li>Vegetables</li> </ul>	<ul style="list-style-type: none"> <li>Salt</li> <li>Jars</li> </ul>	Kitchen	Fermentation, preservation in jars
<i>Dry salting</i>	<ul style="list-style-type: none"> <li>Vegetables</li> </ul>	<ul style="list-style-type: none"> <li>Salt</li> </ul>	Kitchen or cool internal location	Drying
<i>Jams and jellies</i>	<ul style="list-style-type: none"> <li>Fruits</li> <li>Sweet vegetables, roots and tubers</li> </ul>	<ul style="list-style-type: none"> <li>Access to heat</li> <li>Jars</li> <li>Sugar, pectin</li> </ul>	Kitchen	Preservation in jars

Preservation method	Type of plant edible part amendable	Materials required	Location	may be combined with
<i>Preservation in jars</i>	<ul style="list-style-type: none"> <li>Fruits and fruit juices</li> <li>Vegetables</li> <li>Legumes</li> </ul>	<ul style="list-style-type: none"> <li>Access to heat</li> <li>Jars</li> <li>Salt, sugar, vinegar, alcohol, oil</li> </ul>	Kitchen	Blanching, fermentation, wet salting, jams and jellies, pasteurization
<i>Refrigeration</i>	<ul style="list-style-type: none"> <li>Fresh vegetables that do not deteriorate at low temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Refrigeration facilities</li> </ul>	Internal location	NA
<i>Evaporative cooling</i>	<ul style="list-style-type: none"> <li>Fresh vegetables that do not deteriorate at low temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Clay pots</li> <li>Wet cloth</li> <li>Sand</li> </ul>	Warm ventilated location	NA
<i>Pasteurization</i>	<ul style="list-style-type: none"> <li>Fruit juices</li> <li>Canned produce</li> </ul>	<ul style="list-style-type: none"> <li>Pots</li> <li>Thermometer</li> </ul>	Kitchen	Preservation in jars



## Food preparation and cooking demonstrations

### Objectives:

To increase the shelf life, acceptability and consumption of local food plants, by sharing traditional recipes and developing new ones.

### Types of local food plants:

All available local food plants.

### Location for the activities:

In kitchens, or anywhere with the necessary cooking facilities and utensils. The activities can also be combined with/integrated in community events (seed fairs, market days).



### Materials required:

Cooking facilities and utensils.

### Stakeholders involved:

Local chefs and nutritionists, specific members of the community if relevant (e.g. youth).

### Description:

*Before the first session:*

1. Gather nutritional information on the selected local food plants.

*First session:*

2. Opening questions: Write down the answers to each question in Form B, under 'pre-activity questions'.
3. Discuss with the participants, **in plenary**, the recipes which they commonly use for the food plants considered, and the different steps needed for maintaining the nutritional value.
4. Ask participants if there are specific characteristics of the plants that they would like to improve (taste, color, nutritional value, etc.).

*Second FFS session onwards:*

The actual cooking demonstrations take place, including various ways of preparing food. Ensure that the required facilities and utensils are in place, and that sufficient and diverse fresh ingredients are available. Participants should always wash their hands, utensils, and ingredients with clean water before cooking.

## Examples of cooking demonstrations:

1. The participants bring different ingredients and share the recipes they know (in subgroups). The diversity and nutritional content of the recipes is discussed.
2. A professional chef (or alternatively a local nutritionist) presents recipes that help improve the characteristics of a specific food plant and prepares food items accordingly; participants assist during the demonstration and/or replicate the recipe.
3. Specific questions are addressed, looking at, for example, the parts of a plant that are more suitable for cooking. To verify this, different parts of a plant may be prepared in the same way. It is important that the facilitator ensures that no toxic components may remain in the plant parts that are used.
4. The recipes developed in the sessions can be compiled in a recipe book, in which the nutritional content of the meals is highlighted. The book can be used to share more information, such as traditional knowledge and uses of the plants.
5. In all cases, the sessions should not close before tasting the food that has been prepared, checking for acceptability and palatability.



This is the moment when background information on nutrition should be provided.

### Final session:

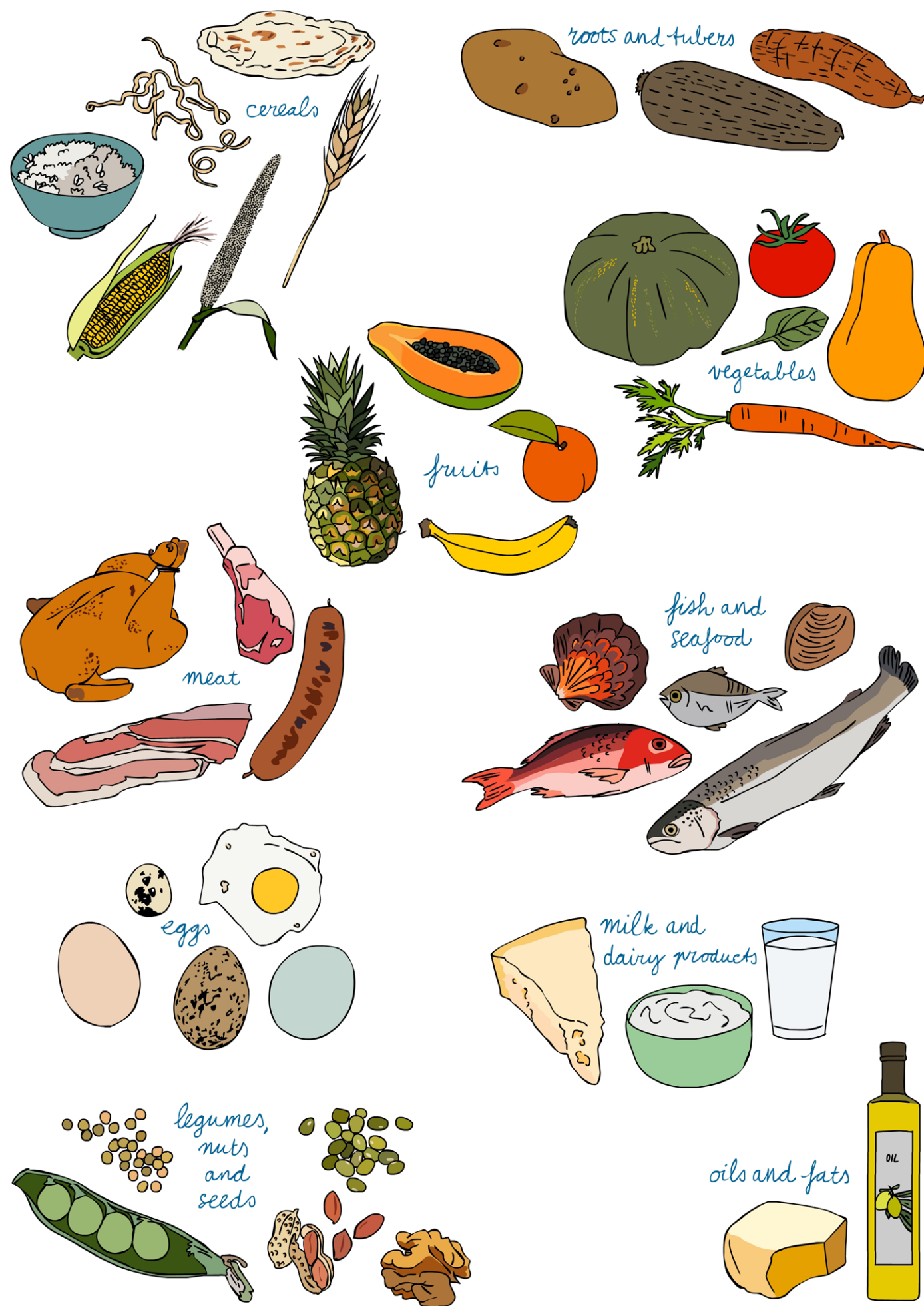
6. During this meeting, FFS participants will reflect on what has (and has not) been accomplished during the FFS cycle and why. Write down the results of the reflection in Form A, under 'activity evaluation'.
7. Based on the ideas and lessons drawn, plan those activities which the group would like to conduct in the next cycle to complement the steps taken or continue working together, or return to the results of the diagnostic exercises to set new objectives.

## Background content:

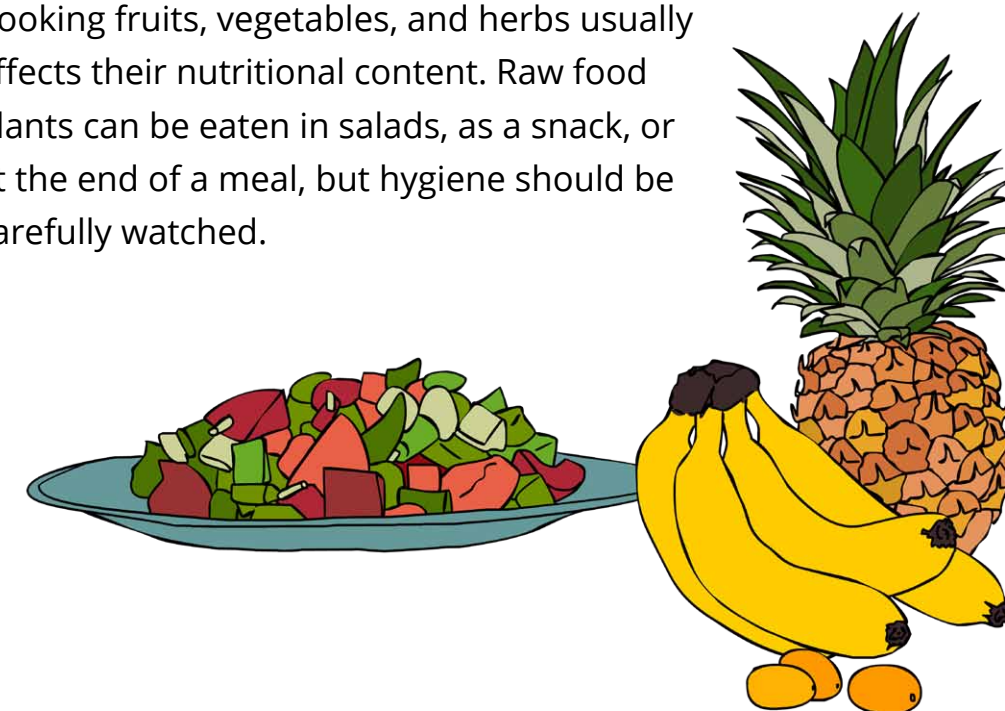
It is essential that background information on nutrition is provided throughout the sessions, in consultation with a nutritionist. The nutritional information provided in the demonstrations should especially address malnutrition issues that are frequent in the community. Examples of possible topics to discuss:

- It is important to have a varied diet that includes foods belonging to different groups.

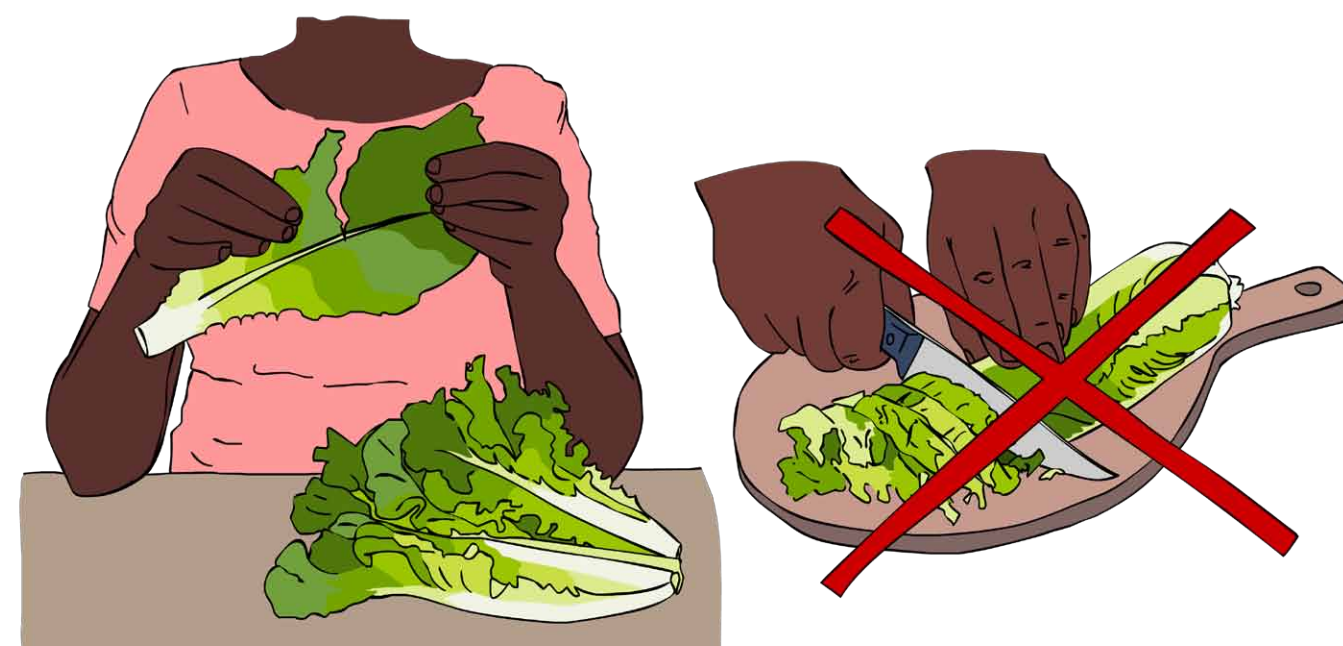




- Processing and cooking food influence its nutritional content and combining different ingredients in a meal can influence the uptake of nutrients. Some general recommendations consider that:
  - Cooking fruits, vegetables, and herbs usually affects their nutritional content. Raw food plants can be eaten in salads, as a snack, or at the end of a meal, but hygiene should be carefully watched.



- Tearing the leaves of leafy vegetables in pieces by hand rather than with a knife preserves the vitamin C content better.



- Cooking vegetables in little water, steaming them, or stir-frying them allows for better nutrient preservation than boiling. The water used for boiling should be integrated into the meal, preventing any nutritional loss.



- Avoid undercooking beans, meat, and eggs, and avoid overcooking other vegetables. Undercooking beans may cause intestinal unease. Food should be eaten shortly after cooking to prevent the risk of contamination.
- Avoid using too much salt or sugar.
- The edible skin of fruits and vegetables is often rich in nutrients, so avoid peeling them when possible. However, if there is a risk of contamination (e.g. from pesticides or human pathogens) the skin should be removed.
- Avoid using baking soda, as this damages most nutrients.
- Drinking tea and coffee with meals reduces the iron uptake, whereas consuming foods rich in vitamin C and A enhances it.

## Seed fairs and food fairs

### Objectives:

To exchange traditional knowledge on seeds of and recipes with local food plants; to raise awareness on seed properties and species diversity and their importance for food security; to create opportunities for seed barter; to provide a platform to influence policy makers and local authorities. Seed fairs and food fairs can be combined or organized separately.

### Types of local food crops:

All available local food plants and their seeds. High diversity of local food plant seeds should be encouraged.

### Location for the activities:

An easily reachable and central location, allowing for the display, exchange and sales of seeds and food, and for the circulation of people.

### Materials required:

Big paper sheets, stands and tables, labels, banners and decorations, plates and utensils.





### Stakeholders involved:

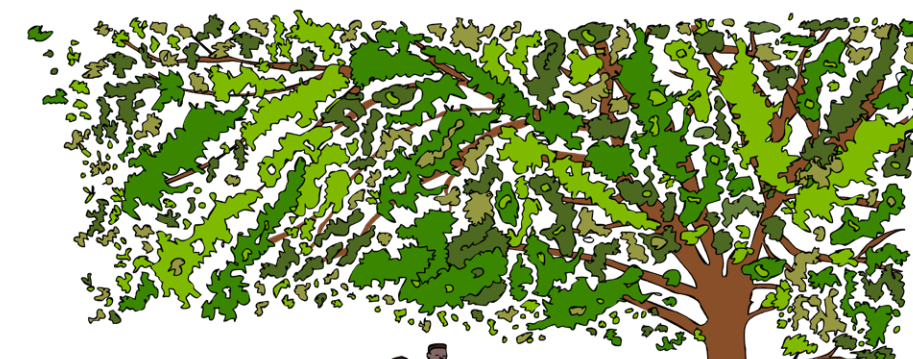
All members of the community, and also of neighbouring communities. Collaboration with community seed banks, local institutions working on seed conservation and policy makers can give an added value to the event. Experts on specific topics (such as nutritionists) can be invited to give short presentations.

### Description:

#### First session:

1. Opening questions: Write down the answers to each question in Form C, under 'pre-activity questions'.
2. Discuss **in plenary**: how can seed and food fairs promote diversity in plant cultivation and in diets, how can they contribute to preserving biodiversity and traditional knowledge, and to raise the

status of local food crops and associated dishes. Brainstorm with the participants on ideas for side activities to include in the fairs.



#### Second session onwards (before the fair):

3. The FFS participants will function as an organizing committee. Distribute tasks and responsibilities among the subgroups, both for planning all activities and for the day of the fair. Examples of planning tasks:
  - a. Selecting a date and location for the fair, considering possible weather conditions and related measures.
  - b. Preparing a detailed plan, including side activities to be organized, and locations for specific activities within the fair.
  - c. Advertise the event in the community and notify and/or external participants.

*Final session (after the fair):*

4. During this meeting, FFS participants will reflect on what has (and has not) been accomplished through the activity, and why. Write down the results of the reflection in Form A, under 'activity evaluation'.
5. Based on the lessons learned, plan which activities the group would like to conduct in the next cycle to complement or continue the work, or return to the results of the diagnosis exercises to set new objectives.

## Background content:

- Possible side activities:
  - Activities for children.
  - Trainings or demonstrations on other topics addressed in the FFS (e.g. nutrition, food preservation, seed storage), led by the FFS members or external experts.
  - Other expressions of the local culture, such as music or dancing. However, seeds and/or food should remain the central element in the fair.



- Competitions can be organized, considering an award for the person who displays the largest number of seeds displayed, or for the best dish prepared.
- Appointed members of the FFS should document the event, taking pictures, or noting down the species and varieties that are shown and shared. Counting the approximate total number of species and varieties at the end of the fair could make farmers more aware of the diversity they preserve.



- FFS participants can document the traditional knowledge on local food plants, asking farmers at the fair about the various uses of the species they brought, or about the ecology of the species used (the conditions under which they grow, their tolerance to floods/drought periods, etc.).



## Growing local food plants in home gardens

### Objectives:

To provide a nearby source of diverse and nutritious food to households throughout the year; to experiment on other topics included in the Farmer Field School on Nutrition; to raise awareness on the importance of local food plants for a healthy diet, and to promote their use.

### Types of local food plants:

Local food plants that can be grown in home gardens.

### Location for the activity:

Discussion sessions can take place in any area that is easily accessible for FFS participants, in one or more home gardens, or in communal gardens.

### Materials required:

Gardening tools, labels, pots and containers.

### Stakeholders involved:

FFS participants and members of their households and communities that are interested in the activity. Local authorities and local agricultural experts may be involved.

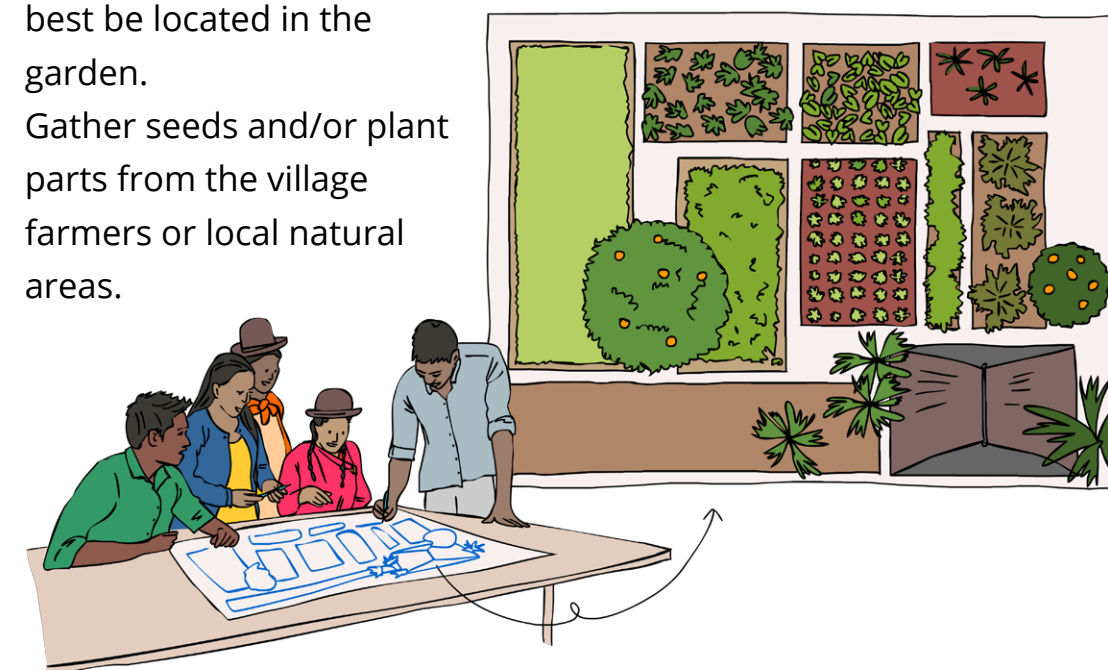
### Description:

*First session (or first few sessions):*

1. Opening questions: Write down the answers to each question in Form D, under 'pre-activity questions'.
2. Discuss, **in plenary**, the importance of home gardens with local food plants for providing a variety of affordable nutritious food.
3. Set the objectives of the activity, for example: establishing individual home gardens, establishing communal gardens, improving existing gardens, expanding the number of species grown.
4. Make a plan and distribute tasks and responsibilities among the subgroups, determining how will all activities be carried out and how responsibilities will be divided among all participants.

*Following sessions:*

5. Select the area and design the garden, e.g. if organized in plots and/or if small pots and containers will be used.
  - a. Discuss which plants to include (look back at the outcome of the diagnostic exercises).
  - b. Discuss the specific needs of the varieties/species and the area where they should best be located in the garden.
  - c. Gather seeds and/or plant parts from the village farmers or local natural areas.



6. In most villages households will already have home gardens. Visit existing home gardens and invite participants to consider:
  - a. The different functions of the home garden: e.g. food production, food storage, production of medicines, equipment for washing, food processing, social functions for meeting or as use as a playground, among others.
  - b. Which plants are cultivated.
  - c. The degree to which each food group is represented in the gardens.
  - d. Design: micro-environments present, management of the different environments, species distribution, responsibilities among the household members.



- e. The purpose of the harvests: e.g. home consumption, exchange, sale, preservation.
  - f. Plant health and agronomic management.
  - g. Points for improvement.
7. **In subgroups**, the participants plant the species, take care of their management and harvesting. Seeds or cuttings are kept for propagation.
8. Regularly evaluate the activity throughout the cycle.

*Final session (after some of the plants have fully grown):*

9. During this meeting, FFS participants will reflect on what has (and has not) been accomplished during the FFS cycle and why. Write down the results of the reflection in Form A, under 'activity evaluation'.
10. Based on the ideas and lessons drawn, plan those activities which the group would like to conduct in the next cycle to complement the steps taken or continue working together, or return to the results of the diagnosis exercises to set new objectives.

### Background content:

Home gardens may include all food groups, as well as medicinal plants. They can also be a place where children play and people meet, and they may include areas dedicated to food processing and storage, or for keeping poultry. Sales of part of the harvest can provide an additional income to the household. However, producing diverse and nutritious food for household consumption must be encouraged as the primary objective, and surplus harvests may be processed and stored for the food scarcity period or for use in case of emergencies.

Home gardens are often considered as a woman's responsibility, but it is important that both women and men are actively involved in this activity.



Home gardens are usually small and can be maintained at a low cost. The proximity to the homestead ensures that working in the garden can be combined with other household activities. It also allows the re-use of food residues as compost, the application of poultry manure, or the re-use of household water (if not polluted with chemical detergents).



Steps for setting up home gardens:

- Selecting the species:
  - Include species for which there is poor knowledge on how to grow the plants but with high nutritional value, and include plants that can be consumed in the food scarcity season. Consider their management and reproduction needs, their resistance to pests and diseases, the water and nutrient requirements, the nutritional value, cooking and processing, taste and cultural acceptance.
  - If a specific malnutrition problem is present in the region, make sure to include plants that can contribute to address it.
  - Include a wide diversity of species and varieties, also with

different seasonality so that the produce can be harvested throughout the year.



- Preparing the area: define the garden area and its spatial organization in micro-environments (e.g. pots, a living fence, an open yard, fenced plots or a fenced plot margin). Clean the area from weeds and thrash residues. A slight slope can be preferable to avoid waterlogging (if relevant). Plough the soil and prepare it in raised beds if possible. Use nets to protect the area and emerging or ripening plants from animals.





- Planting: depending on the species and on their germination rate, sow seeds/seedlings or plant cuttings. Each micro-environment and each plot may include one or multiple species. Consider the different management needs: for instance, species located near the kitchen may indirectly receive water more frequently, and they will be more easily accessible for consumption.
- Management:
  - Nutrient availability: protecting the soil is key, so it is important to prevent it remaining bare and to apply mulch. The inclusion of legumes is also beneficial for its quality, since legumes add nitrogen to the soil. The application of compost or animal manure in the early vegetative stage of the plants will enhance nutrient availability to the young plants.



- Water management: this depends on the local climate and the species, but is a crucial activity in all cases. Mulching, ensuring shade, and removing weeds can reduce water loss, whereas raised beds and drainage channels can reduce water logging. Young plants should be protected from direct rain.



- Competition for resources: a given distances between plants should be ensured during sowing. Different species may be combined. This involves combining species with different height and light needs, root length, or development and maturity times. If the competition among plants is impairing their growth, remove the ones that are suffering to ensure



the proper development of the stronger plants.

- Weeds: undesired weeds should be removed regularly. Shade or mulch may reduce weed growth.



- Pests and diseases: regularly check for signs of disease and pest presence. To prevent them, it is important to plant in a suitable place and season, avoid replanting of a species in the same place over the seasons, include insect-repellent plants, and remove damaged plant parts. Natural pesticides produced in the FFS or in the households may be applied.

- Harvesting: both edible parts for home consumption and sales, and seeds or plant parts for propagation for the next season need to be harvested. This is important to ensure the sustainability of the garden over time.
  - For consumption/sales: harvest the different parts when the plants are mature, minimizing as much as possible the damage to the plant as a whole.
  - Collecting seeds: for each species, select a few healthy plants with favorable traits for collect seeds from them.



## Creating school gardens

### Objectives:

To encourage children to cultivate and consume local food plants, and to complement school meals with nutritious food produced in the schools. Children can transfer their knowledge to their homes, increasing the number of community members who benefit.

### Types of local food plants:

All local food plants that are relatively easy to cultivate can be used in school gardens.

### Location for the activities:

School grounds or fields belonging to the school. The garden should be located in proximity to the classes and be visible for parents and school visitors.

### Materials required:

Access to water, garden tools, labels, paper and pencils for drawing.

### Stakeholders involved:

Children (of primary and secondary school age) and their parents, other members of the community; teachers and school cooks. Local agronomy experts can also be consulted for horticultural advice, while nutritionists can help with educational activities on nutrition.

### Description:

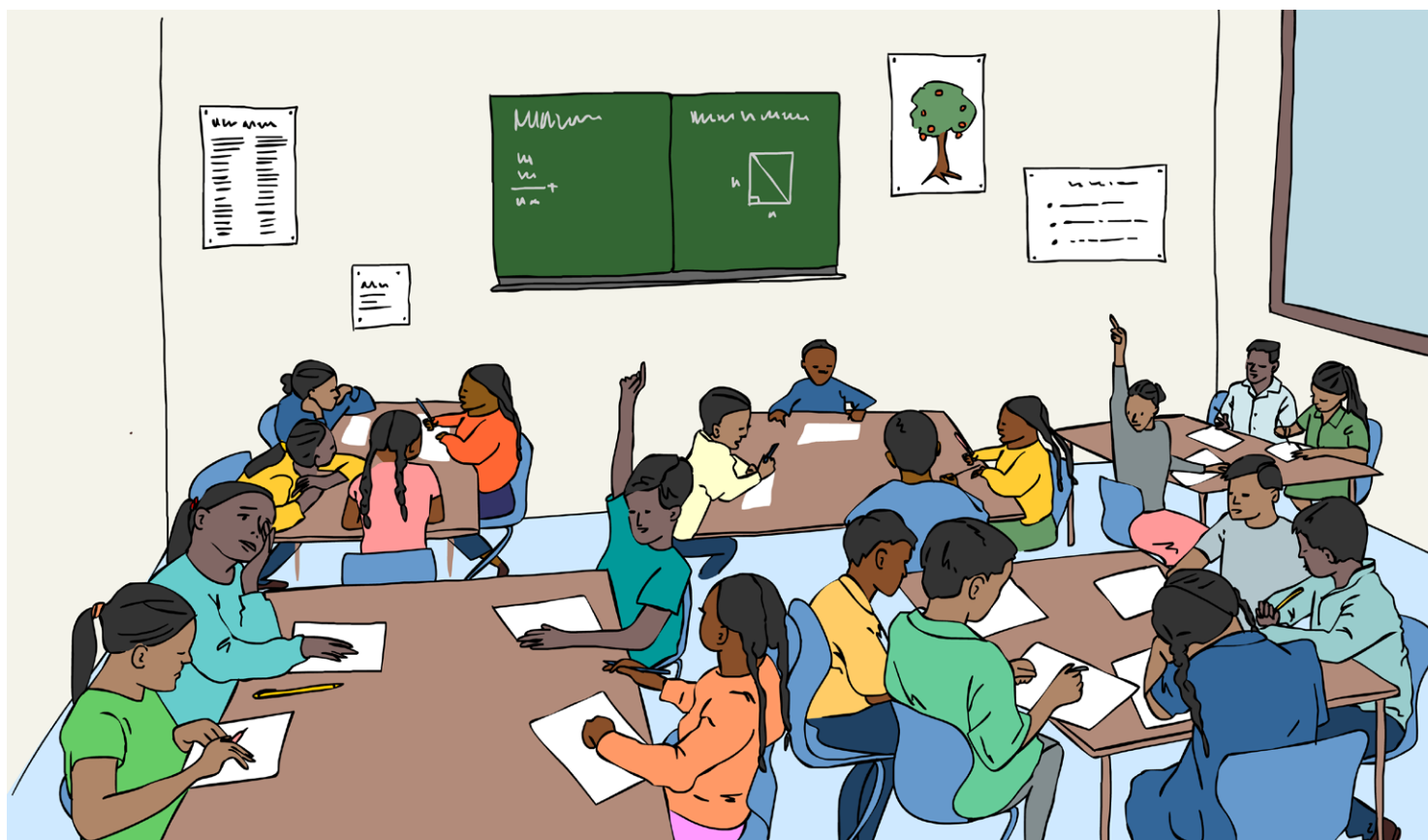
*Before the first session:*

1. Make sure to comply with any legal requirement for working with schools and children.
2. Prepare a general plan for the activities to carry out. Ensure that the necessary infrastructure and support are available (e.g. are nutritionists needed? Is it necessary to consider the support from extension services?). Keep flexibility in the plan to work according to the children's learning capacity.
3. Collect information on local agricultural practices.
4. Collect information on the children's diets and, if possible, their nutritional status.

*First session (FFS participants in the classroom):*

5. Opening questions: Write down the answers to each question in Form E, under 'pre-activity questions'.
6. Explain to the children that they will prepare and take care of a school garden. Ask them which steps they think are necessary.
7. The pupils could be divided in groups working together throughout the year. In this session they could do team building activities, such as finding a name and motto for their group, drawing a group stemma, competing for best performance, etc.





*Second session onwards (FFS participants supporting the school children):*

8. Bring the children closer to their natural environment, increasing their knowledge on the ecosystem and their environmental awareness.
9. Sessions can be dedicated to identifying the exact location, improving the area and setting up the garden, planting the crops, maintaining them, harvesting.
10. In-class activities and lessons may address the importance of nutrition, the ways in which plant grow, soil quality, the roles that insects play, etc.
11. Questions can be asked at the beginning and the end of the sessions (on the model of those in Form E), to check if the lessons have been effective.
12. Each class or group can have a designated fixed plot/garden or task, or they can rotate regularly. The first option facilitates a

sense of attachment to the plot and it stimulates competition, whereas having rotating groups can ensure that all pupils learn about different crops and functions. Contests and prices can be introduced to stimulate children.



13. Once the garden is ready, children can show their plants in a school fair. The school fair could also include cultural activities.

*Final session (end of the school year/term):*

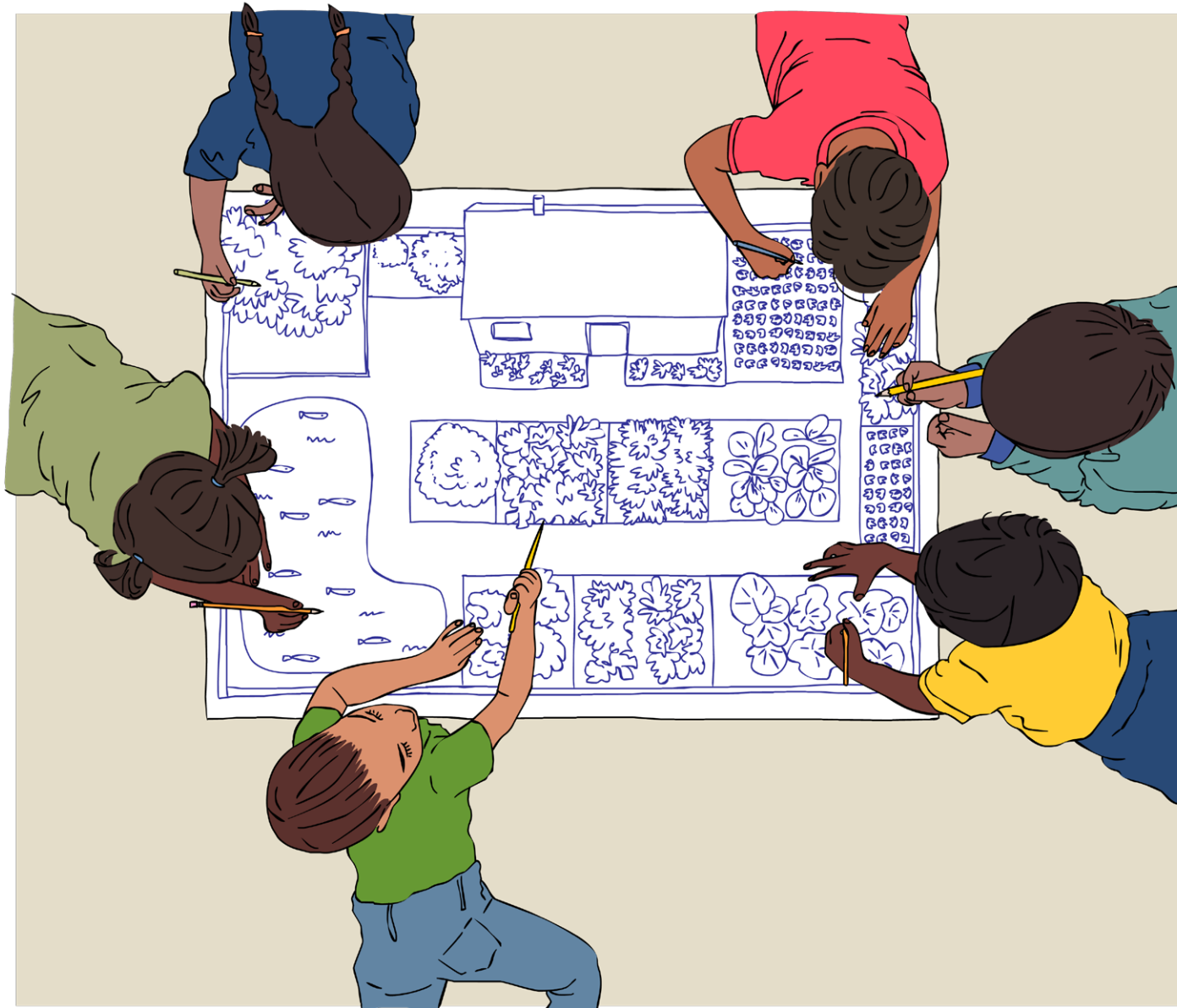
14. During this meeting, FFS participants will reflect on what has (and has not) been accomplished during the FFS cycle and why. Write down the results of the reflection in Form E, under 'activity evaluation'.



15. Based on the ideas and lessons drawn, plan those activities which the group would like to conduct in the next cycle to complement the steps taken or continue working together, or return to the results of the diagnosis exercises to set new objectives.

### Background content:

The following activities are intended for school children. However, involving parents and other community members is important to make sure that they are accepted. It also ensures that adult volunteers will help when needed. All activities should be adapted to the age of the children in each group. Most of the activities described in the



illustrated guides can be implemented in schools and combined with gardening (e.g. food processing, germination tests, etc.).

The first few sessions should be dedicated to improving the children's awareness of the garden ecology:

- The children can draw maps of the school grounds and use them to decide where the garden should be located (on a flat area, visible from classrooms and for visitors, etc.). They could also draw a hypothetical garden site, before it is actually set up.
- Let the children observe the area closely, looking at the plants and insects already present. Explain their roles in the ecosystem, and how the composition of plants and insects may be altered by the cultivation of other plants. Explain which insects are beneficial for gardening and why, and which have a negative effect.





- Making compost is an instructive activity that shows the importance of recycling waste and maintaining soil quality. The compost can be used in the school garden.

### Garden establishment:

- Prepare a plan for the garden set-up and layout.
- Look at the site and decide what is needed. Think of: water availability, protection from animals, protection from the sun, slope, equipment. Analyze the soil composition with the available resources (from visual estimation to laboratory analyses).
- If possible, set the garden in permanent raised beds, as they are easy to work on. They should have the right size for children to be able to work on them without stepping on the soil. When building the beds, consider pathways, the availability of water and compost heaps. A shaded table could be used as a plant nursery.



- Children should make water-resistant labels to put next to each plant.

Decide what to grow, together with the children. This is a good moment for sharing ideas about healthy diets. A few points of attention:

- Consider their current eating habits: ask their parents and look at their school meals. Look at the variety of food and at the balance between the different food groups. The products grown in the school gardens should complement and expand the diets of the children.
- If the children are not having a sufficient number of meals per day (ideally three balanced meals with two snacks in between), make sure the garden plants can serve as snacks. Also consider existing malnutrition problems, as these should be specifically addressed – e.g. if anemia is prevalent in the area, prefer iron-rich plants,



provide them in association with vitamin C-rich foods, and explain why iron is important, where they can find it, and how it is better absorbed by the body in the presence of vitamin C.

- Gardens can have special designs for educational or nutritional purposes. For example, a plot could be dedicated to growing vitamin A-rich plants, or it could include different food groups that need to be consumed in a day (e.g. a starchy plant, a legume, vitamin-rich vegetables and fruits).
- Choose plants that grow easily and with productive cycles that align well with the school term, so that harvesting can be done during the school year.
- Check if the parents or the community members are willing to donate seeds (non-hybrids) or cuttings of local food plants to the school garden.

Agricultural practices: these depend on the chosen plants and on the local conditions. In general:

- Apart from collecting information and technical advice, consider

those cultivation practices that are common in the area. Children can learn how to improve those practices, and they can bring their knowledge back to their homes.

- Possible further topics to address with the children: soil quality, the use of mulch and manure; crop rotation schemes; intercropping and multi-layering (growing plants of different heights); weeding; integrated pest management vs. the risk associated with pesticide use; seasonality and plant life cycles; cooking and processing.
- In all cases, remember that the educational objectives of the activities are more important than the actual success of the plant production and agricultural practices.

**Please note:** *The level of production reached in school gardens should not necessarily be sufficient to provide for all school feeding needs. The cultivated food plants should, however, complement the school meals, motivating all children to participate actively and encouraging them to consume local food plants as part of their daily diets.*





## For more information

### Food preservation

- FAO, Food and Nutrition Council of Zimbabwe, UNICEF (2013). *Healthy harvest: a training manual for community workers in good nutrition and the growing, preparing, and processing of healthy food* (pp. 81-86). Available at: [http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy\\_Harvest\\_training\\_manual\\_.pdf](http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy_Harvest_training_manual_.pdf)
- FAO Zimbabwe (2015). *Healthy harvest. A training manual for community workers in growing, preparing and processing nutritious food* (pp. 86-93). Second edition. ISBN 978-0-7974-6229-8.
- Joardder, M. U., & Masud, M. H. (2019). *Food Preservation Techniques in Developing Countries. In Food Preservation in Developing Countries: Challenges and Solutions* (pp. 67-125). Springer, Cham. Available at: [https://link.springer.com/chapter/10.1007/978-3-030-11530-2\\_4#Sec30](https://link.springer.com/chapter/10.1007/978-3-030-11530-2_4#Sec30)

### Food preparation and cooking demonstrations

- FAO, Food and Nutrition Council of Zimbabwe, UNICEF (2013). *Healthy harvest: a training manual for community workers in good nutrition and the growing, preparing, and processing of healthy food* (pp. 81-86). Available at: [http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy\\_Harvest\\_training\\_manual\\_.pdf](http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy_Harvest_training_manual_.pdf)
- SPRING (2016). *Nigeria: Complementary Feeding and Food Demonstration Training—Food Demonstration Manual*. Arlington, VA: Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project. Available at: [https://www.spring-nutrition.org/sites/default/files/training\\_materials/files/nigeria\\_complementary\\_feeding\\_food\\_demonstration\\_manual.pdf](https://www.spring-nutrition.org/sites/default/files/training_materials/files/nigeria_complementary_feeding_food_demonstration_manual.pdf)
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- RESEWO & Slow Food Foundation for Biodiversity (2008). *Cooking with traditional leafy vegetables: indigenous plants in Tanzania's kitchen*. ISBN 9976 910 58-4. Available at: [http://www.b4fn.org/fileadmin/templates/b4fn.org/upload/documents/Reports/Cooking\\_with\\_ALVs\\_Tanzania.pdf](http://www.b4fn.org/fileadmin/templates/b4fn.org/upload/documents/Reports/Cooking_with_ALVs_Tanzania.pdf)
- ANDES (2018). *Cocinando con la agrobiodiversidad de Lares. Libro de recetas. (Cooking with Andean biodiversity, by the communities of Lares, Peru. Recipe book)*. Available at: <https://www.sdhsprogram.org/tool/cooking-with-andean-biodiversity-by-the-communities-of-lares-peru-recipe-book/>

### Seed fairs and food fairs

FAO (2006). *Community Diversity Seed Fairs in Tanzania. Guidelines for seed fairs. LinkS project (gender, biodiversity and local knowledge systems for food security) report no 51*. Available at: <http://www.fao.org/3/a-ag387e.pdf>

### Growing local food plants in home gardens

ASOCUCH. (2020). *Los huertos de hortalizas nativas / plantas subutilizadas como estrategia para la conservación de la agrobiodiversidad y sostenibilidad de grupos de mujeres indígenas de la Sierra de los Cuchumatanes, Huehuetenango*.

Cruz-Garcia, G. S., and Struik, P. C. (2015). *Spatial and seasonal diversity of wild food plants in home gardens of Northeast Thailand*. *Economic Botany*, 69(2), 99-113. DOI 10.1007/s12231-015-9309-8

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Yasmin, T., Khattak, R., & Ngah, I. (2014). *Ecofriendly kitchen gardening by Pakistani rural women developed through a farmer field school participatory approach*, *Biological Agriculture & Horticulture*, 30:1, 32-41, DOI: 10.1080/01448765.2013.845112

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FAO, Food and Nutrition Council of Zimbabwe, UNICEF (2013). *Healthy harvest: a training manual for community workers in good nutrition and the growing, preparing, and processing of healthy food*. Available at: [http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy\\_Harvest\\_training\\_manual\\_.pdf](http://www.fao.org/fileadmin/templates/tc/tce/pdf/Healthy_Harvest_training_manual_.pdf)

FAO (2015). Setting up and running a school garden. *A manual for teachers, parents and communities*. ISBN 92-5-105408-8. Available at: <http://www.fao.org/3/a0218e/A0218E00.htm#TOC>

Form A: Food preservation

Objective of the activity: To increase the availability of local food plants over a longer period of time, particularly during periods of food shortage.

The form starts with the questions to be asked before starting the implementation of a FFS activity. Please scroll-down for the questions corresponding to end of activity evaluation.

Please fill in column 'answer'. A list of options is provided to be used only when applicable.

a. Pre activity questions	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Local food plant names	



What are the bottlenecks that will be addressed?	(1) Reduced abundance (2) Social stigmatization (e.g. symbol of poverty, low status, dirty, consumption associated with HIV) (3) Harvesting practices (4) Unpleasant sensory characteristics (taste, smell, texture, color) (5) Availability and access (6) Cultivation (7) Propagation (8) Seed conservation (9) Health concerns (10) Cooking (11) Preservation (12) Knowledge on nutritional value (13) Commercialization (99) Other
If other, please specify:	

Research objective	(1) To improve harvesting practices (2) To improve cooking and food processing (3) To improve propagation (4) Seed and knowledge exchange (5) Seed conservation (6) Food preservation (7) To improve cultivation practices (99) Other, please specify
If other, please specify	
Number of women that participated in this session	
Number of women who voted for this objective	
Number of men that participated in this session	

Number of men who voted for this objective	
When will this activity start?	
When will this activity end?	
Part 2	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
How many of you do preserve this/these plants?	

For this/these specific plants, which preservation methods do you know?	(1) The plant is not preserved (2) Blanching (3) Sun/solar drying (4) Hot air drying (5) Processing into flour (6) Fermentation (7) Wet salting (8) Dry salting (9) Processing into jams or jellies (10) Preservation in cans or jars (11) Refrigeration in fridges and freezers (12) Evaporative cooling (13) Pasteurization (99) Other, please specify
If other preservation methods, please specify	



How many of you encounter problems?	
What are the main problems you encounter?	(1) Processing demands too much time (2) Processed food has a bad taste (3) Processed food has a bad smell (4) Processed food has a bad texture (5) Processed food has a bad color (6) The food preserved is easily spoiled (7) Difficulties in storing the food (99) Other, please specify
If other, please specify	

For those who do not preserve this/these plants, what is the reason?	(1) Lack of knowledge on how to properly process and store the food (2) Lack of tools for processing (3) No appropriate storage space (99) Other, please specify
If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	

b. Activity evaluation	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
When did the activity begin?	
When did the activity end?	
Main problems faced during the implementation of the activity	(1) lack of tools and/or equipment (2) not adequate facilities for food processing (3) food processing facilities were too far (4) lack of expert technical back stopping (5) organizational problems (6) could not identify a good way of processing to address the main preservation problems (99) Other, please specify

If other, please specify	
Main results after FFS cycle finalizes	(1) New preservation methods identified, please specify (2) No useful results obtained (99) Other, please specify
If new preservation methods identified, please specify	
If other, please specify	



Part 2	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Number of FFS participants in the session	
How many participants found it useful?	
How many did not find it useful?	
Why not?	(1) Methods revised were already known (2) could not identify a way of processing to ensure preservation (3) the new methods are not easy for women (4) the new methods are time demanding (99) Other, please specify

If the new methods are not easy for women, can you explain why?	
If other, please specify	
How many of you will start using the methods learned on food preservation?	

What would you do differently next time?	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	

## Form B: Food preparation and cooking demonstrations

Objective of the activity: To increase the acceptability of local food plants, by sharing traditional culinary knowledge and developing new nutritious recipes.

The form starts with the questions to be asked before starting the implementation of a FFS activity. Please scroll-down for the questions corresponding to end of activity evaluation.

Please fill in column 'answer'. A list of options is provided to be used only when applicable.

a. Pre activity questions	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Local food plant names	



What are the bottlenecks that will be addressed?	<ul style="list-style-type: none"> <li>(1) Reduced abundance</li> <li>(2) Social stigmatization (e.g. symbol of poverty, low status, dirty, consumption associated with HIV)</li> <li>(3) Harvesting practices</li> <li>(4) Unpleasant sensory characteristics (taste, smell, texture, color)</li> <li>(5) Availability and access</li> <li>(6) Cultivation</li> <li>(7) Propagation</li> <li>(8) Seed conservation</li> <li>(9) Health concerns</li> <li>(10) Cooking</li> <li>(11) Preservation</li> <li>(12) Knowledge on nutritional value</li> <li>(13) Commercialization</li> <li>(99) Other</li> </ul>
If other, please specify:	

Research objective	<ul style="list-style-type: none"> <li>(1) To improve harvesting practices</li> <li>(2) To improve cooking and food processing</li> <li>(3) To improve propagation</li> <li>(4) Seed and knowledge exchange</li> <li>(5) Seed conservation</li> <li>(6) Food preservation</li> <li>(7) To improve cultivation practices</li> <li>(99) Other, please specify</li> </ul>
If other, please specify	
Number of women that participated in this session	
Number of women who voted for this objective	

Number of men that participated in this session	
Number of men who voted for this objective	
When will this activity start?	
When will this activity end?	
<b>Part 2</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
How many of you use these food plants for preparing dishes?	

What types of cooking preparations do you practice?	(1) The plant is not cooked (2) Eaten raw in a salad, as a snack, etc. (3) Boiled (4) Stir-fried (5) Deep fried (6) In soups (7) In curries (8) As a tea (99) Other, please specify
If other, please specify	



How many of you encounter problems?	
What are the main problems you encounter?	(1) Long cooking times (2) Bad smell during/after cooking (3) Bad taste (4) Bad texture (5) Bad color (6) Negative impact on health e.g. vomit, diarrhea (99) Other, please specify
If other, please specify	

For those who do not prepare dishes with this/these plants, what is the reason?	(1) Long cooking times (2) Bad smell during/after cooking (3) Bad taste (4) Bad texture (5) Bad color (6) Negative impact on health (e.g. vomit, diarrhea) (7) Lack of knowledge on preparation (8) Lack of knowledge on nutritional value (9) Children/young people do not like it (10) People are ashamed to eat the plant (99) Other, please specify
If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	

b. Activity evaluation	
<b>Part 1</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
When did the activity begin?	
When did the activity end?	
Main problems faced during the implementation of the activity	(1) lack of utensils, tools and/or equipment (2) not adequate facilities for cooking (3) cooking facilities were too far (4) lack of expert technical back stopping (5) organizational problems (6) lack of recipes (7) lack of food ingredients (99) Other, please specify
If other, please specify	

Main results after FFS cycle finalizes	(1) New cooking methods or recipes identified, please specify (2) New recipes accepted by children/youth (3) No useful results obtained (99) Other, please specify
if new cooking methods or recipes identified, please specify	
If other, please specify	

Part 2	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Number of FFS participants in the session	
How many participants found it useful?	
How many did not find it useful?	
Why not?	(1) Recipes and cooking methods revised were already known, (2) Recipes and cooking methods did not help to address the main problems associated to the consumption of the plants, (3) Recipes and cooking methods are difficult to implement (please specify why), (99) Other, please specify
If recipes and cooking methods are difficult to implement, can you explain why?	

If other, please specify	
How many of you will start using the new cooking methods or recipes learned?	
What would you do differently next time?	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	



## Form C: Seed fairs and food fairs

Objective of the activity: To exchange seeds, traditional knowledge on local seeds and recipes; to raise awareness on local food plant diversity for nutrition.

The form starts with the questions to be asked before starting the implementation of a FFS activity. Please scroll-down for the questions corresponding to end of activity evaluation.

Please fill in column 'answer'. A list of options is provided to be used only when applicable.

a. Pre activity questions	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Local food plant names	

What are the bottlenecks that will be addressed?	(1) Reduced abundance (2) Social stigmatization (e.g. symbol of poverty, low status, dirty, consumption associated with HIV) (3) Harvesting practices (4) Unpleasant sensory characteristics (taste, smell, texture, color) (5) Availability and access (6) Cultivation (7) Propagation (8) Seed conservation (9) Health concerns (10) Cooking (11) Preservation (12) Knowledge on nutritional value (13) Commercialization (99) Other
If other, please specify:	

Research objective	(1) To improve harvesting practices (2) To improve cooking and food processing (3) To improve propagation (4) Seed and knowledge exchange (5) Seed conservation (6) Food preservation (7) To improve cultivation practices (99) Other, please specify
If other, please specify	
Number of women that participated in this session	
Number of women who voted for this objective	

Number of men that participated in this session	
Number of men who voted for this objective	
When will this activity start?	
When will this activity end?	
Part 2	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
How many of you usually exchange seeds with other farmers?	

How many of you encounter problems?	
What are the main problems you encounter?	<p>(1) Lack of access to quality seeds after exchange</p> <p>(2) Limited quantities of seed available</p> <p>(3) Absence of a well-developed seed exchange network</p> <p>(4) Seeds are difficult to store</p> <p>(99) Other, please specify</p>
If other, please specify	

For those who do not exchange seeds, what is the reason?	<p>(1) Lack of access to quality seeds</p> <p>(2) Limited quantities of seed available</p> <p>(3) Absence of a well-developed seed exchange network</p> <p>(4) Seeds are difficult to store</p> <p>(99) Other, please specify</p>
If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	



b. Activity evaluation	
<b>Part 1</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
When did the activity begin?	
When did the activity end?	
Main problems faced during the implementation of the activity	(1) Low quality seeds (2) Limited seed quantities (3) Few participants (4) Unavailability of preferred species (5) Organizational problems (6) Lack of expert technical back stopping (99) Other, please specify
If other, please specify	

Main results after FFS cycle finalizes	(1) Increased number of local food plants (2) Increased number of varieties (3) New recipes learned (4) A well-developed seed network (5) Organizational skills improved (6) No useful results obtained (99) Other, please specify
If other, please specify	
Indicate total number of participants in the fair	

<b>Part 2</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Number of FFS participants in the session	
How many participants found it useful?	
How many did not find it useful?	
Why not?	(1) No new local food plants displayed (2) No new varieties displayed (3) No new recipes displayed (4) No expansion of the seed network (99) Other, please specify
If other, please specify	

How many of you exchanged seeds during the fair?	
How many new types of seeds of new food plants you got during the fair?	
Would you like to organize other similar events in the future?	(1) Yes (0) No
If so, what would you do differently?	

What would you do differently next time?	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	

## Form D: Growing local food plants in home gardens

Objective of the activity: To provide a nearby source of diverse and nutritious food to households throughout the year. Home gardens also offer a space to experiment seed germination, vegetative propagation, crop management, intercropping, and harvesting, among other practices.

The form starts with the questions to be asked before starting the implementation of a FFS activity. Please scroll-down for the questions corresponding to end of activity evaluation.

Please fill in column 'answer'. A list of options is provided to be used only when applicable.

a. Pre activity questions	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Local food plant names	



What are the bottlenecks that will be addressed?	<ul style="list-style-type: none"> <li>(1) Reduced abundance</li> <li>(2) Social stigmatization (e.g. symbol of poverty, low status, dirty, consumption associated with HIV)</li> <li>(3) Harvesting practices</li> <li>(4) Unpleasant sensory characteristics (taste, smell, texture, color)</li> <li>(5) Availability and access</li> <li>(6) Cultivation</li> <li>(7) Propagation</li> <li>(8) Seed conservation</li> <li>(9) Health concerns</li> <li>(10) Cooking</li> <li>(11) Preservation</li> <li>(12) Knowledge on nutritional value</li> <li>(13) Commercialization</li> <li>(99) Other</li> </ul>
If other, please specify:	

Research objective	<ul style="list-style-type: none"> <li>(1) To improve harvesting practices</li> <li>(2) To improve cooking and food processing</li> <li>(3) To improve propagation</li> <li>(4) Seed and knowledge exchange</li> <li>(5) Seed conservation</li> <li>(6) Food preservation</li> <li>(7) To improve cultivation practices</li> <li>(99) Other, please specify</li> </ul>
If other, please specify	
Number of women that participated in this session	
Number of women who voted for this objective	

Number of men that participated in this session	
Number of men who voted for this objective	
When will this activity start?	
When will this activity end?	
<b>Part 2</b> <b>A:</b> Opening questions when the activity will take place in individual home gardens (established next to the houses of FFS participants)	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
How many of you have home gardens?	

How many of you encounter problems?	
What are the main problems you encounter?	(1) Low yield (2) Pests and diseases (3) Weeds (4) Lack of water (5) Poor soil quality (6) Labor-intensive (7) Plants are damaged by chicken and other animals (99) Other, please specify
If other, please specify	

What plants would you like to grow in your home gardens?	<ul style="list-style-type: none"> <li>(1) Staple crops</li> <li>(2) Cereals other than the staple crop</li> <li>(3) Legumes other than the staple crop</li> <li>(4) Starchy roots and tubers other than the staple crop</li> <li>(5) Vegetables</li> <li>(6) Fruits</li> <li>(7) Spices</li> <li>(8) Medicinal plants</li> <li>(9) Plants used as feed for animals</li> <li>(99) Other, please specify</li> </ul>
If other, please specify	

For those who do not have a home garden, what is the reason	<ul style="list-style-type: none"> <li>(1) Lack of space</li> <li>(2) Lack of knowledge on propagation and/or cultivation practices</li> <li>(3) Low availability of seeds or planting material</li> <li>(4) Lack of labor</li> <li>(99) Other, please specify</li> </ul>
If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	



<b>Part 2</b> <b>B:</b> Opening questions when the activity will take place in <b>**communal gardens**</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
How many of you encounter problems when managing the communal garden?	
What are the main problems you encounter?	(1) Low productivity (2) Pests and diseases (3) Weeds (4) Lack of water (5) Poor soil quality (6) Labor-intensive (7) Plants are damaged by chicken and other animals (8) Unclear division of roles (9) Unclear distribution of the harvest (99) Other, please specify

If other, please specify	
What plants would you like to grow in the communal garden?	(1) Staple crops (2) Cereals other than the staple crop (3) Legumes other than the staple crop (4) Starchy roots and tubers other than the staple crop (5) Vegetables (6) Fruits (7) Spices (8) Medicinal plants (9) Plants used as feed for animals (99) Other, please specify

If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	

b. Activity evaluation	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
When did the activity begin?	
When did the activity end?	
Main problems faced during the implementation of the activity	(1) Lack of tools and/or equipment (2) Not adequate garden/plot to allow the proper development of the activity (3) Garden/plot was too far (4) Lack of expert technical back stopping (5) Organizational problems (6) Lack of seeds (99) Other, please specify
If other, please specify	

<b>Part 2</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Number of FFS participants in the session	
How many participants found it useful?	
How many did not find it useful?	
Why not?	(1) No new local food plants displayed (2) No new varieties displayed (3) No new recipes displayed (4) No expansion of the seed network (99) Other, please specify
If it is not possible to apply the new lessons at home, can you explain why?	

If other, please specify	
How many of you will apply the new knowledge and practices?	
What would you do differently next time?	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	



## Form E: Creating school gardens

Objective of the activity: To encourage children to cultivate and consume local food plants, and to complement school meals with nutritious food produced in the schools.

The form starts with the questions to be asked before starting the implementation of a FFS activity. Please scroll-down for the questions corresponding to end of activity evaluation.

Please fill in column 'answer'. A list of options is provided to be used only when applicable. .

a. Pre activity questions	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
Local food plant names	

What are the bottlenecks that will be addressed?	(1) Reduced abundance (2) Social stigmatization (e.g. symbol of poverty, low status, dirty, consumption associated with HIV) (3) Harvesting practices (4) Unpleasant sensory characteristics (taste, smell, texture, color) (5) Availability and access (6) Cultivation (7) Propagation (8) Seed conservation (9) Health concerns (10) Cooking (11) Preservation (12) Knowledge on nutritional value (13) Commercialization (99) Other
If other, please specify:	

Research objective	(1) To improve harvesting practices (2) To improve cooking and food processing (3) To improve propagation (4) Seed and knowledge exchange (5) Seed conservation (6) Food preservation (7) To improve cultivation practices (99) Other, please specify
If other, please specify	
Number of women that participated in this session	
Number of women who voted for this objective	

Number of men that participated in this session	
Number of men who voted for this objective	
When will this activity start?	
When will this activity end?	
<b>Part 2</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Are you creating or improving a school garden?	(1) creating a new school garden (2) improving an existing school garden (99) other, please specify

Other, please specify:	
If improving a school garden, what are the main problems in the existing school garden?	(1) Low productivity (2) Pests and diseases (3) Weeds (4) Lack of water (5) Poor soil quality (6) Labor-intensive (7) Plants are damaged by chicken and other animals (8) Unclear division of roles (9) Unclear distribution of the harvest (10) Children are not interested (99) other, please specify

Other, please specify:	
What plants would you like to grow in the school garden?	(1) Staple crops (2) Cereals other than the staple crop (3) Legumes other than the staple crop (4) Starchy roots and tubers other than the staple crop (5) Vegetables (6) Fruits (7) Spices (8) Medicinal plants (9) Plants used as feed for animals (99) Other, please specify

If other, please specify	
Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	
<b>Part 3:</b> The following questions will be asked to children in the first session of the activity	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Number of children that participated in this session	

How many of you like gardening?	
For those who like gardening, why do you like it?	(1) It is fun (2) I like to eat what we grow (3) I learned something new (99) Other, please specify
If others, please specify	



How many of you dislike gardening?	
For those who do not like gardening, why not?	(1) The work is too heavy (2) It is boring (3) I prefer to do other things (4) I do not like to eat what we grow (99) Other, please specify
If other, please specify	

Facilitator Comments especially information volunteered by children that was not covered in the questionnaire	
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b. Activity evaluation	
Part 1	Answer (please write down or indicate all options that apply; specify if the answer is 'other')
When did the activity begin?	
When did the activity end?	

Main problems faced during the implementation of the activity	(1) Lack of tools and/or equipment, (2) Not adequate garden/plot to allow the proper development of the activity, (3) Garden/plot was too far, (4) Lack of expert technical back stopping, (5) Organizational problems, (6) Absenteeism, (7) Time – balance between school curriculum and home garden implementation and/or maintenance, (8) Lack of seeds, (9) Lack of water, (10) Poor soil quality, (11) Pests and/or diseases, (12) The plants were eaten by animals, (13) Weeds, (14) Too labor intensive, (99) Other, please specify
If other, please specify	

Main results after FFS cycle finalizes	(1) School garden successfully established (2) School garden successfully improved (3) No useful results obtained (99) Other, please specify
If other, please specify	
<b>Part 2</b>	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Number of FFS participants in the session	
How many participants found it useful?	
How many did not find it useful?	

Why was the session not useful?	(1) It was not possible to create a new school garden (2) the main problems of the existing school garden were not solved (3) it was not possible to organize the maintenance of the garden (99) other (please specify)
Other, please specify:	
What would you do differently next time?	

Facilitator Comments especially information volunteered by farmers that was not covered in the questionnaire	
<b>Part 3:</b> The following questions will be asked to children in the last session of the activity	<b>Answer</b> (please write down or indicate all options that apply; specify if the answer is 'other')
Number of children that participated in this session	
For those who enjoyed working in the school garden, can you explain why?	(1) It was fun (2) I like to eat what we grow (3) I learned new things (99) Other, please specify
If other, please specify	

How many **did not enjoy** working in the school garden?	
For those who did not enjoy, why not?	(1) The work is too heavy (2) It is boring (3) I prefer to do other things (4) I do not like to eat what we grow (99) Other, please specify
If other, please specify	
Facilitator Comments especially information volunteered by children that was not covered in the questionnaire	



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