

HOW-TO GUIDE:

Box Gardening

A Community Project



Box Gardening



WHAT IS BOX GARDENING?

Box gardening is a low-cost and low-maintenance way of backyard farming and is an enjoyable way to provide healthy food. It involves growing in-season vegetables and fruits of your choice, in constructed boxes. The boxes create a mini-farming plot that can be easily managed and maintained by community members. It is well suited for communities who do not have enough land to farm on, are in need of a cost-efficient source of nutrition, and for the single mother or elderly person who do not have the time and strength to weed and manage a bigger farm.

CAN YOUR COMMUNITY SUCCESSFULLY RUN A BOX GARDEN?

Before you commit to a box garden, you must make sure you are able to provide good conditions and care to the fruit and vegetables and that you know what this project means for your community.

It is important that the community:

- Is committed and willing to follow through with the project.
- Is aware of the amount of work, equipment and resources needed for profitability and productivity.
- Is aware of their needs as a community and how this project can meet those needs.

It is extremely important that the site:

- Should be free of pollution of any sort.
- Must be centrally located to make it accessible for as much of the community as possible.
- Should receive direct sunlight.
- Has access to water.

DOES YOUR COMMUNITY HAVE THE ABILITY TO FOLLOW THE BOX GARDENING TIMELINE CORRECTLY AND COMPLETELY?

Box Gardening Stages

| ACTIVITIES | MONTHS | | | |
|--------------------------------|---------|--------|--------|--------|
| | 1 | 2 | 3 | 4 |
| 1. Project Appraisal | ←.....→ | | | |
| 2. Box Preparation | |→ | | |
| 3. Germination/Transplant | |→ | | |
| 4. Monitoring | ←.....→ |→ |→ |→ |
| 5. Box transplant/Care/Harvest | | | |→ |

If your community meets these requirements then you are ready to begin the planning stage.

Box Gardening

PHASE I: COMMUNITY CONSULTATION

Do you want to grow your own vegetables? Do you have the interest and energy to plan and follow through? To answer these sorts of questions, it is very important to meet as a community and discuss the way forward. Before making the final decision, the community should have a clear idea of what the garden means to the community, and the possible positive and negative consequences of implementing the project. People can share views of support or share concerns about the gardening project.

In addition to community member concerns and questions, try and answer the following questions:

- Why do you want to implement a box garden?
- Is this what the community needs?
- Are community members able and willing to put in the time to maintain the garden?
E.g. watering, pest protection, harvesting etc.
- Is there space to set up the garden? Where would it be?
- What are the benefits of the garden to the community? Is the project useful for the community's needs?

After all questions and concerns have been addressed, decide whether or not the community will move forward with the project. If the community has decided the project is not appropriate at this time, consider thinking of other options to meet the community needs. If the community supports the box garden project, choose a project leader or chairperson to lead and guide the project. Choose the location, vegetable/fruit, assign responsibilities to members (including nominating someone to purchase the materials), and decide on expectations of the community and the results you wish to achieve from the project.

Community Cohesion

It is important that the majority of the community support this initiative before it is implemented. The community working together and supporting each other will ensure its sustainability. Also when beginning new practices it is easier to work in a group to ensure there is support and fellowship in terms of sharing of ideas and best practices.

Proposal Writing

Once you have decided on all the major details of the project, assigned responsibilities, shared expectations, and gained community commitment, you are ready to begin. Do this by putting all the planning into words. It is very important to plan and put things down in writing as this makes the project more official and makes it easy to follow through and be successful.

In your proposal you need to include:

- Why you are choosing this project and what it means to your community.
- Timeline.
- Role and responsibilities.
- Where materials will come from.
- When you will produce a progress report.
- Total cost.

Box Gardening

PHASE 2: CONTACT THE MINISTRY OF AGRICULTURE FOR SUPPORT

Ministry of Agriculture

The best step a community should take once it is ready to continue with box gardening is to contact the nearest Ministry of Agriculture Office. The Ministry of Agriculture has Extension Officers around Fiji. This is important as this Extension Officer provides support, training and guidance for the project. It is therefore very important for communities to link up with the Extension Officer prior to commencement of their project.

It is the communities' responsibility to contact their area Extension Officers to support them on their project. Extension Officers are there to support the community and even individuals when needed. Examples of problems you can approach the Officer with include: pest control, moving into commercial farming etc.

| AREA | CONTACT |
|-------------------|---------|
| Central Division | 3384233 |
| Western Division | 6661000 |
| Northern Division | 8812318 |

PHASE 3: BOX CONSTRUCTION

The 1st phase will be construction of the box garden frames. In this phase, there are two types of box gardens that can be constructed: one that is open to the ground and one that is raised above the ground. The boxes can be constructed with weatherboards, boxing timber, waste timber or any other materials that are strong and can be cut without too much difficulty. Construct the box's four sides first for an open-bottom box. For a raised box, add a piece of wood as a base of the box, and four 'legs' around 3-4 feet tall at each corner.

GARDEN BOXES



Important Notes

- It is easier to build the box upside down.
- Pour in some potting soil until one inch below the top of the box and pat it down so it is even and quite tightly packed.
- For a raised box, add holes around 1-2cm wide at the bottom every 30cm².

Box Gardening

PHASE 4: GERMINATION

Step 1: Preparing the Seed Trays

You can use any tray for this as long as it can retain potting mix (around 4cm in height), allow water to go through, and the height is at least 4cm. If your seed trays have large holes at the bottom you can place one sheet of newspaper on it before pouring in your potting mix, this is to hold the mix together but allow water to go through. If you do not have trays, you can use any container, and make holes of 1-2cm at the base e.g. wash tub, empty container, paint tin, plastic drum, cardboard box. Make sure they are clean of chemicals, paint, etc. After you place the newspaper pour in your potting mix up to the top of the tray.

Step 2: Planting

Using a piece of timber, pencil or twig, press down plot lines evenly in your tray's potting mix. Then make holes with your fingers (around 1cm deep) every 3cm to place your seed. Once you have made your plots evenly distribute your seedling into your plots.



Then cover your buried seed by pushing over the potting mix to cover it completely. You will then leave the seedlings to germinate (produce shoots) for a period of five to six days.

Location

Keep your tray out of the way from interference e.g. small children or animals, possibly on a table. The tray should receive sunlight and should be watered every day and/or when the potting mix is dry. It is important that your germinated seedling gets enough sunshine and are kept away from rain for maximum growth.

PHASE 5: TRANSPLANTING

Step 1: Preparing the tray

After five to six days, transfer your germinated seedling onto another tray (at this time your seedlings should be about 4cm in height). Prepare your tray as you had prepared it for germination, making sure to fill the mix up to the top of the tray and to make sure there is a way for water to drain through.

Note: You do not have to transplant the seedlings to trays. You can be creative and use milk containers, bottles, cans etc. The seedlings basically just need more space to grow than they had during germination.

Box Gardening

Step 2: Transplanting the seedlings

Using a small fork, loosen the soil under the sprouted seedling without damaging the seedling or its roots. Do this by gently digging the fork into the side of the seedling and moving the fork around slightly to loosen the seedling from its place.

Then by holding on to the leaves of the sprouted seedling individually, transfer them to the new tray. Using your finger, make lines of 3cm deep holes and plant the seedlings in the holes as shown in the picture number 2. Water slightly if the soil seems dry.

Note: Whenever you transplant seedlings, make sure the soil you transplant them into is very damp and that you are doing it on a cloudy day or in the evening (to make it less stressful for them).



Step 3: Care for 2/3 weeks

Again, make sure the seedlings are out of the way from interference and are getting direct sunlight. An ideal place would be on a high elevation outside, but make sure to get them inside when it rains. Water your plants regularly and always keep the soil moist.

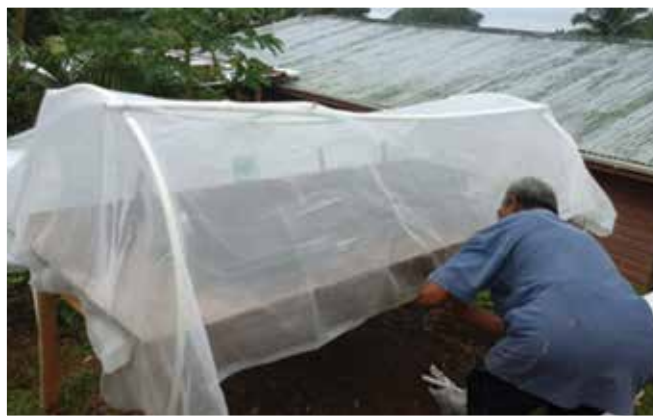
Leave another two to three weeks for the sprouted seedling to mature (the stalks should be around 5cm high) then transfer them into your garden plot or boxes for full growth.

PHASE 6: PUTTING TOGETHER YOUR FINAL PRODUCT

The 6th phase is the construction of a low-cost and low-labor green house system. This is where nets, PVC tubes, and anti woven plastic will be used for construction.

Using twigs or PVC ½ pipe, bend and plant both sides of each end on the sides of your plot or box as seen in the picture above. You may need two or three pieces of the same length to add strength. Secure the pipes on both sides by drilling them to the wooden sides of the box.

Cover your mosquito netting over the pipe for protection from insects. This is optional depending on the threat that exists. You should be ready to harvest your crops within one month from transplanting.



Box Gardening

SUSTAINABILITY

When organizing community projects, you should have sustainability on your mind: how can we continue this project? Can we build on this project in any way? How can we improve the quality of this project? How will we deal with any problems that arise and keep the project going? The good news is you have already taken the first step by deciding to grow organic, chemical-free food that is naturally more sustainable.

Keeping our practices environmentally friendly

Sustainable gardening goes beyond just using organic methods. From water and energy conservation to waste reduction and smart seed-sourcing, there are many ways we can make our practices more sustainable.

- Reusing and recycling materials in the garden is the best practice as it reduces the cost therefore making it affordable and sustainable.
- Using empty plastic bottles, milk container, egg trays and empty containers for germination.
- For insect netting, normal mosquito's nets or other similar materials can be used instead of buying plastic sheets that are bad for the environment.
- Using clean waste-water for irrigation.

Another easy and very good way of being sustainable is making your own fertilizer by composting:

- Dig a hole 2-3meters deep.
- Buy a bag of chicken manure (around \$1.50 for a sack) and a sack of sawdust.
- Put the manure and sawdust in the hole and mix them together.
- As a community, collect vegetable and fruit waste (e.g. potato skins) and add them to the hole.
- Turn over the materials in the hole every week.
- After a few weeks, the foods will break down and will become a very healthy fertilizer for your plants.

Keeping our practices creative

There are a lot of fun ways to continue your project, and keep it original.

A few things you can do:

- Ask children to make artistic signs for the vegetables.
- Create a name for the garden area and make a sign.
- Add pretty decorations to the boxes by painting designs on the side.
- Add shells around the boxes.
- You can even add a few more boxes and make a community garden, where members can spend time.
- You can add a bench for sitting.

ADVANTAGES OF BOX GARDENING

Due to the size and accessibility of the plot, it is not only easy to take care of the plot, it also does not require too much time, energy or money.

1) Weed Control

Because the plot is easy to take care of, any weeds in your garden should be few and far between. Because of this, maintenance is also not too difficult.

2) Pest Control

Due to the size and height of box gardens, it is easy to control pests. You will not need to buy pest control chemicals to use on your plants. This keeps your produce healthy, fresh and pest free.

Box Gardening

3) Better Soil

When you plant a garden directly in the ground, you need to start with the soil that's already there and that soil might not be ideal for gardening. However, when working with a raised garden bed, you can use whatever soil will work best for your garden, right from the start.

4) Portability

What happens if you move? If you use a raised garden bed, particularly a small one like a square foot garden, you can bag up your soil and take your garden box with you.

5) Higher Yields

Better soil is used in raised bed gardens, so they tend to have higher fruit and vegetable yields than traditional row gardens.

6) Accessibility

One of the best things about raised bed gardens is their accessibility. Because each garden block is only 4' x 4', you can easily reach every single plant to water, inspect, and harvest the produce.

7) Adaptability

For those who aren't mobile enough to get down on the ground to reach their gardens, small raised beds are adaptable. Anyone can maintain the garden - just put the garden on a tabletop. Since the garden is not dependent on soil beneath the box, you can put your garden box anywhere you like.

8) Cost-efficient

Seeds are expensive. In a traditional row garden, you scatter the seeds and then thin the plants as they grow, which is wasting seeds. In a raised bed garden, you plant only the amount of seeds you need. Properly stored, the additional seeds will be good for another year or two, saving you money on next year's garden.

9) Longer Growing Season

Gardening seasons depend on the temperature of the soil. The ground in a 4' x 4' box will warm up more quickly than the ground.

10) Aesthetically Pleasing

Raised garden beds look neat and tidy. In addition, if you're a creative person, you can make your garden look pretty. Your garden could easily become the focal point of your community.

11) High Success Rate

Contained and controlled growing makes every seed you germinate have almost a 99% chance of growing and then being harvested.

12) Economic Benefits

Since you are growing your own food, you won't need to spend as much money buying food.

Happy Farming!

The photos in this document are taken from Fijian communities where Save the Children Fiji have worked to implement box gardening projects as part of the Community Child Nutrition Project. We would like to thank these communities for their hard work and for working towards providing better and more nutritious foods for their children. Vinaka vakalevu!