

### **Consider the space needed for the Plant / Tree / Animal**

With guilds, just like in other agricultural methods, the correct amount of spacing is needed for plants, trees, and animals. One big difference with Permaculture is you think about how different plants can go together to use all the space. Almost all designs will be mixed, not mono-species – this is true for plants, trees and animals. This will be covered more throughout the rest of the manual as we put together a design plan and then as we put it into action. Some of this you will just need to learn with practice to suit your own resources and conditions.

### **Consider saving labour**

As you are designing, always think about how you can save your labour (or other resources) both today and in the future. This will include ideas such as using live fencing, using truncheons, protecting existing trees instead of just starting your own from seed, etc. It is a way of thinking that will start to spread to your whole life – go ahead, do a little less work and be a little 'lazy', but be more creative instead!

### **Consider lifestyle, habits and daily tasks**

Another way to save labour on a daily basis is to consider the way people behave in the area. Instead of trying to get people to change their habits it can be easier sometimes to change the design. For example, at a school near us the children mop the floor every day and throw the waste water in the same bare spot every day. Instead of getting the kids to walk to an area with plants and trees to throw their water, bring the plants and trees to them! Plant that spot with a few sturdy things and add some mulch and something to protect people from walking on it. As the plant or tree grows you can expand to add more things. This lesson can be applied in many, many places.



### **Consider the weather - sun, shade, rain, wind**

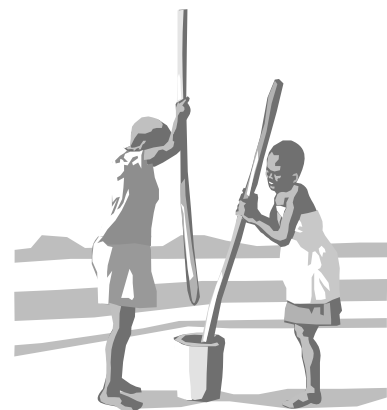
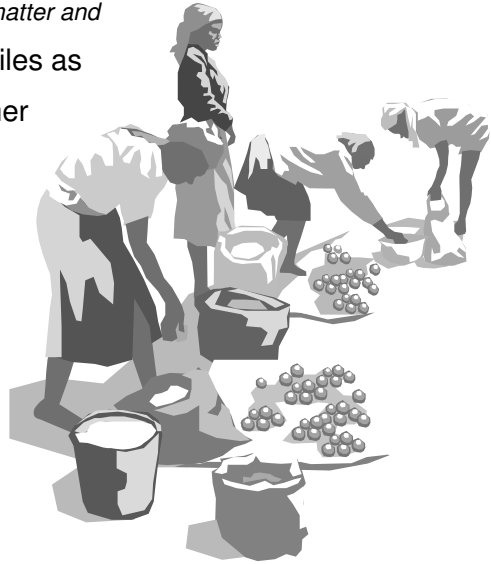
It is useful to know your North-South-East-West directions for your designing, for example:

- ✓ Wind and rain usually follows a pattern in your area. By knowing which way the wind comes from you can put in wind breaks, or put windows on the side of the building that allows the best air flow, or plant some climbing vines to protect the open windows from rain.
- ✓ The sun always comes up in the East and sets in the West. This is pretty common knowledge, but most people do not take advantage of capturing the sun's ray, heat or shade where it is needed. Considering the sun will be needed for many types of designs including building, planting, and keeping animals. You'll want to think about the shadows made by "supporters" and other taller species and what the effect will be on the other plants, trees and animals. Some species like sun and some like shade. The appendix has a start-up list to help you get to know your plants, trees, and animals.

## **Consider where to start**

Look for the easiest place to start that will use resources that are currently being wasted. Foods do NOT have to be in square little beds at the back of the house! Foods can be scattered around the home and throughout the community. In the end you may have a little guild here and a big guild there. These guilds could be where there are:

- ✓ Sweeping and/or 'trash' piles (usually contains organic matter and 'real' trash) – Market areas have a lot of these trash piles as does every home and restaurant. Any plastic or other item harmful to the soil will need to be removed and taken care of properly.
- ✓ Other forms of organic matter – This could be out in an agricultural field, in an animal pen, near a *chimbudzi* (toilet), etc.
- ✓ Water drains – Bath, sinks, rain water gutters, etc. (when using bath or other 'dirty' water you will want to choose foods that you pick high off the plant/tree, not near the ground, review the section on water).
- ✓ Washing clothes and/or dishes and the water can be poured around the guilds. A guild can even be design under the area where clothes are hung up to dry which drips a lot of water.
- ✓ Wells, boreholes or any other water source.
- ✓ People living and spending a lot of time such as around the house where people used to sweep but will now have guilds, or around a school, a playground, a restaurant, an office, a bar, etc.
- ✓ Kitchens or other food preparation area – there are usually a lot of organic scraps and water in this area that are easily recycled into a garden
- ✓ Plants and trees currently growing – DO NOT clear these away, until after you decide if they can fit into your new guild designs. You may wish trim them and work with them, or in other cases you may decide to clear them out (such as when there are too many of one thing). Think about how things that are there can be a part of your design – as a supporter for other plants to climb, as light shade for the young plants, as organic matter to feed or cover the soil, etc.



## Consider land used for pathways

When you need to plan an area, you will need to decide the shape of your guild areas –

### **These do NOT have to be square bed areas!**

- ✓ The design should allow you to reach all the foods without stepping on the planting area.
- ✓ The designs should try to work around existing plants and trees – so be sure to know what you already have growing in the area, even the smallest sprouting plant or tree may be useful in your design.
- ✓ You may have many different guild shapes on the same plot of land.

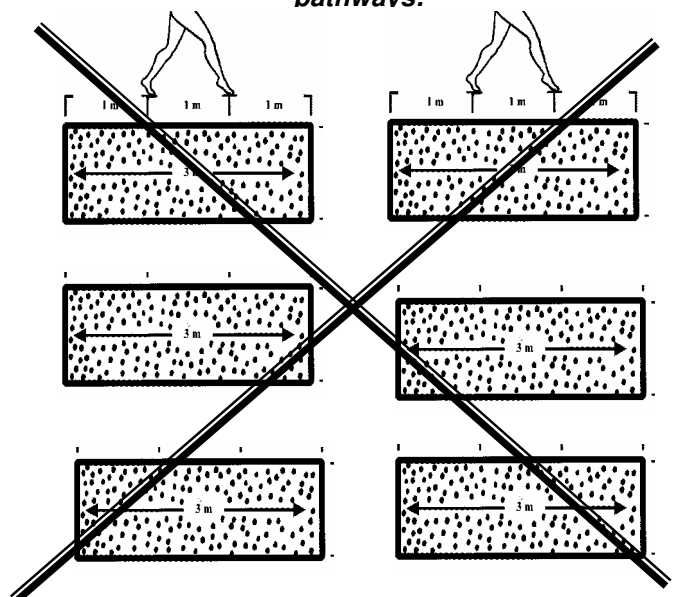
Pathways are important for convenience and moving around the area, but they are also a wasted space that could be planted with something! Typical “garden beds” take up a small square plot with pathways on every side; this is too many pathways.

Instead of so many pathways you can fill in more space with food by linking the typical type of beds together – just look at all the spaces you can fill with plants!

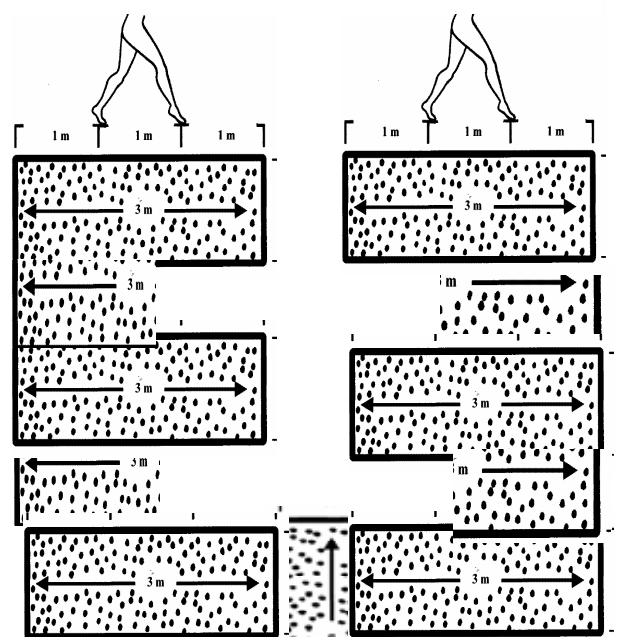
- ✓ There are creative ways to put in stepping stones so that you reduce the number of pathways.
- ✓ In the space furthest from the path in each guild area you can put taller species such as a food or legume bush (such as pigeon pea) or small trees where you pick food up high.
- ✓ The areas can wind around existing trees, plants, termite mounds, buildings, etc. giving the area a very exotic garden feel and look.
- ✓ Remember, there are hoes or weeding in this system so you won't have to stand in the beds.

The following pages show one example of putting your resources together into a guild, and planning the layout of the paths, plants and trees.

***Before: This design uses too much land for pathways:***



***After: Below is the same system adapted to reduce paths so more land is used for food.***



### **Consider if you need a fence**

Some people immediately think that they have to have a fence to protect their plants. Fences are NOT always necessary, so be sure that you really need one before putting time, energy, resources and money into building one!

### **Use the shortest fence needed for the intruder –**

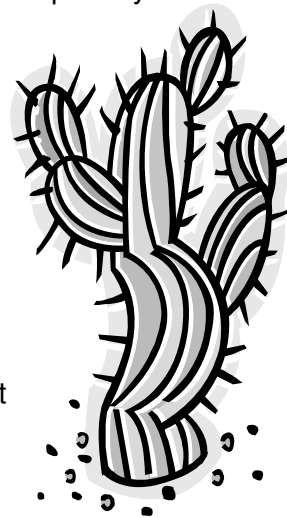
The work that you do using this model should be seen by as many people as possible! If you put up a high fence, no one can see it. Strategies you can use include:

- Put the gardens where they can be seen, such as along a main path, road, or other community area)
- Put up a sign to improve awareness
- Invite people to come see



Living fences made of plants and trees placed closely together are the longest lasting choice. But, if you need something quickly you may have to construct something temporarily out of dead fence materials. Fences can be made out of many types of locally available materials such as:

- ✓ A live fence of thorny hedges planted closely together, or other spiky plants such sisal, or other hedges that prevent animals from passing through any gaps. While you are waiting for them to grow you can cut thorn branches and place them strategically or weave them around the garden's edge.
- ✓ Live poles and thatching grass or plant stems tied together to prevent any holes. Live poles include Bloodwood (*Mlombwa*), *Kobo*, Tree cassava (*Mpira*), Moringa (*Chamwamba*), Cassava (*Chinangwa*), Jatropha (*Msatimanga*), or other indigenous live poles; Other large tree trunks can be used as poles – just design your garden areas around existing trees!
- ✓ Scrap materials such as old wood, pieces of furniture, old appliances, etc. To keep your neighbor's happy you should be decorative in the way you recycle these 'trash' items!



**Keep each of these considerations and all the information you've learned about low input, diet diversity, soil health and water management in mind as you create your design.**



## Creating the design plan for your area

The design plan is your vision of where the plants, trees, and animals will each live (including you!). It will show where the pathways, driveways, buildings, water tanks, solar panels, toilets, and other structures will be placed in your area. Everything that you've learned about low input is considered in the design. Some key questions to continually ask are:

- ✓ Low Input – How can I make the best use of resources in the most efficient way?
- ✓ Diet Diversity – How can I get a diverse diet throughout the year?
- ✓ Soil Health – What do I need to include to make my soil healthy?
- ✓ Water Management – How can I make the best use of all my water?
- ✓ Guilds – What does each plant, tree, or animal need to live healthy? Where is the best place to put it and what should it go with it?
- ✓ Considerations – Resources, Yields, Space, Labour, Lifestyle, Weather

At first, as with any new skill or way of thinking, it will take some effort to remember all of these, but after a while, it becomes your way of thinking with very little effort at all. In this section we are going to create the design for your area. Design plans may change as you put the plan into action, and it may take years to complete the overall design plan.

### Mapping the area

You might want to draw a sketch of your area – the buildings, the current layout of trees, the slopes, where North, South, East and West are, the direction of the usual winds (which may change at different times of the year), where there is erosion, organic matter, and a list of all your resources (*which we compiled on page 40 under assessing all foods available, and on page 98 considering your resources*) – include anything you think is important, you can add more later if you need to.



### Draw your design plan

Now that you have a map of your area, and you have a list of your resources (there are at least two ways to think about making a design plan for your areas:

- 1.) Look at your area and choose the right plants/trees/animals/structure for that area.
- 2.) Look at your resources and then find the right area to put them.

Take a walk around your area, preferably with other people in your household, to look at the land, the current layout of the trees, plants, animals, buildings, lifestyles, the flow of water, direction of the air, the sun, etc. Discuss ideas about what resources there are to capture, and what might go well where and why. You will want to do this several times at different times of

the day to really understand the area. After 10 years we still take what we call ‘garden walks’ to see how the designs are doing and to discuss what changes and additions we want to make.

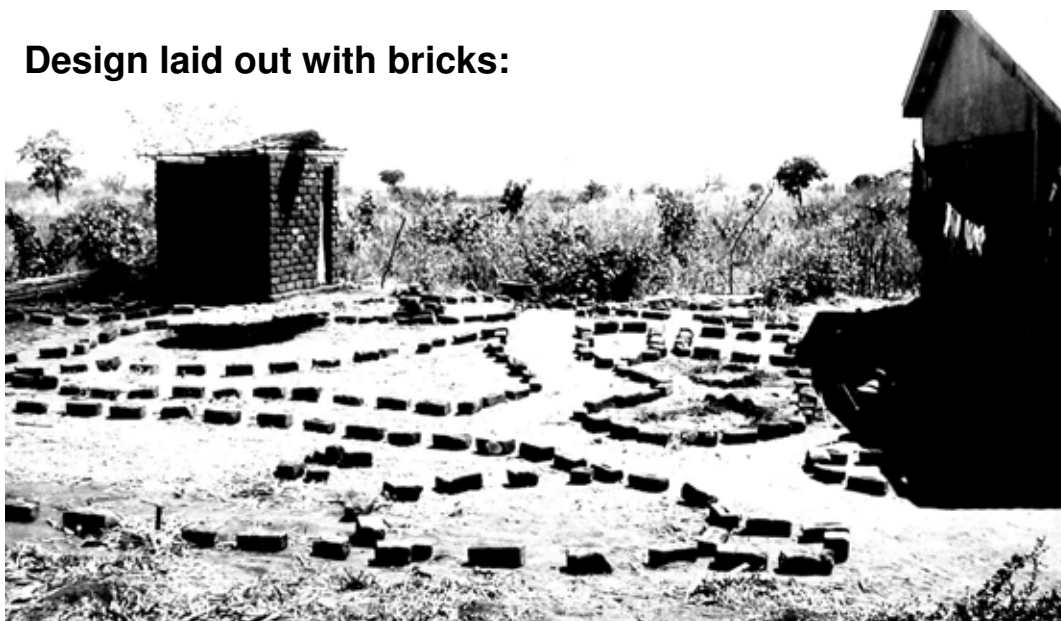
There are several ways you can visualize or “draw” your plan:

- ✓ In your head,
- ✓ On paper such as a notebook, flip chart, poster board, old cardboard or chalkboard,
- ✓ Outside in the actual area with rocks, broken bricks, sticks, or other markings to help you see your ideas and make changes by moving them around as you think through your plan.
- ✓ Or using all of these methods, which is the way I prefer to make my plans.

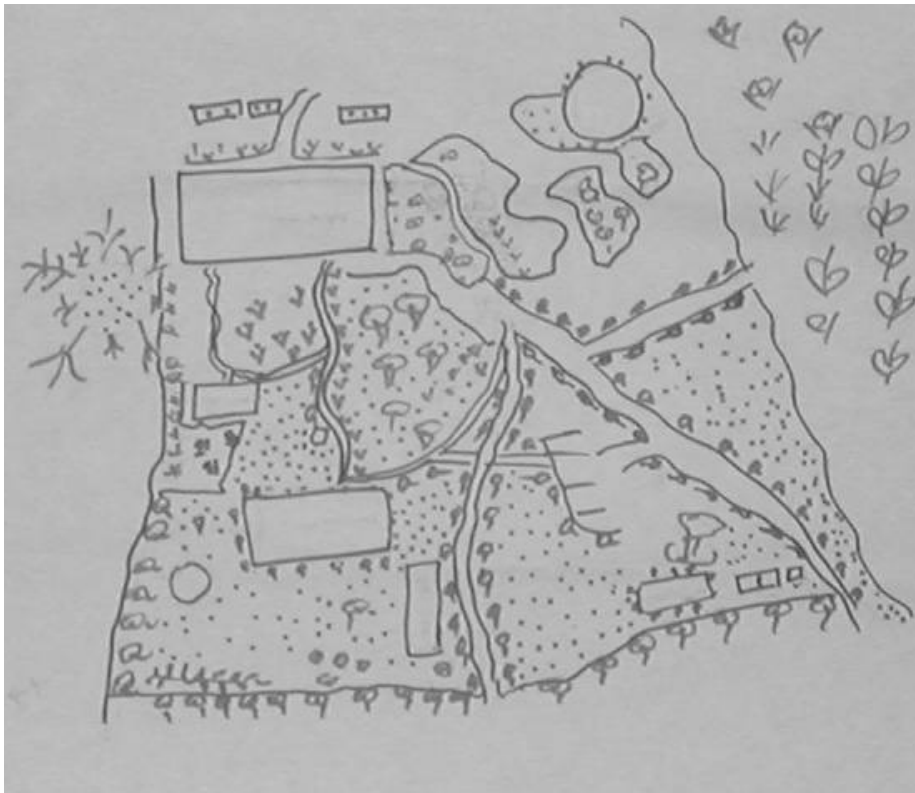
### **Before Design:**



### **Design laid out with bricks:**



This picture shows a design plan laid out in the area with bricks. The bricks can be moved very easily to change the sizes of the beds and pathway.



Example of a plan by Vision Bible Training and Accommodation Centre (VIBITAC), Nkhata Bay, Malawi



Example of a plan by Vision Bible Sanga Primary School Nkhata Bay, Malawi

## Designing individual guilds

Every guild is different. Review page 96-97 on how nature designs itself and mimicking nature with guilds. The combination of plants, trees, and animals will depend on many different factors that were covered throughout this manual. Guilds will change in every season as you harvest some things, trim other things back, and replant other things in open spaces. Just as in nature, some plants, trees and animals in the guild will be permanent, long-lasting perennials or self seeding. The following table is just an example to show how the parts of the guild might go together in an area. See the appendix for several different design drawings.

	<b>Guild example 1 Bathing house</b>	<b>Guild example 2 Field</b>	<b>Guild example 3 Porch (khonde)</b>	<b>Guild example 4 Office entryway</b>
<b>1. Food for us</b>	Passion Fruit (magalagadeya)	Sorghum	Ndele (climbing spinach)	Cape Gooseberry (Jamu)
<b>2. Food for soil</b>	Khungudzu (lablab)	Cowpeas	Kamumpanda (climbing lima bean)	Nandolo (pigeon pea)
<b>3. Ground cover</b>	Mulching	Pumpkin	Rock mulch	Mint
<b>4. Digger</b>	Bath house live trees	Sweet Potatoes	Coco Yams	Cassava
<b>5. Climber</b>	Loofa (sponge)	Tomatoes	Passion Fruit	Peas
<b>6. Supporter</b>	Bath house structure	Cassava / Maize	House	Eggplant
<b>7. Protector</b>	Flowers	Mpungabwe	Flowers	Lemon Grass

## Action Plan

After you map your area and create your design plan, you may also want to write an action plan for your area, but it is up to you and how you think and work. When you are working in a team or community situation, a written list helps to create clear communication. You can brainstorm all the activities that need to be done then put them in order into a plan. Remember, things may change when you get out there and start doing.

<b>Example of an Action Plan</b>	<b>When?</b>	<b>By who?</b>
Assess all resources	day 1	
Map the area	day 1	
Create design for area based on resources (may need several days)	day 2	
Source other resources if needed (seeds, mulch, other organic matter, etc.)	week 1	
Start marking out design (paths, planting areas, kholas, etc.)	week 1	
Plant first guild	week 2	
<i>(et cetera)</i>		



## **Testing your understanding of plant and animal health**

1. Describe how nature grows and keeps growing.
2. Name at least 4 things to consider as you develop your design.
3. Map out the area around your home, including all the resources you have available, then draw a design for your home area and discuss the ideas it with someone.

### Teaching about Design:

- **Guilds:** This is best done outside as a discussion; you can almost always find a natural spot, or an area where nature is growing without too much disturbance from a human. Start with what foods you can find in that area, then look at how nature maintains healthy soil and water, then digging (through roots), then planting with climbers and supporters, and lastly protection. This naturally flows right into the 7 parts of a guild.
- **Group Activity:** After the group discusses how we can mimic nature with a guild, people are ready to put their ideas either on paper, or on the ground outside. Stress that every guild is different and that some guilds take time to develop into a permanent area.

**1) Divide the group** into equal groups trying to get different types of people and knowledge into each group. Give each group a type of area to design as their 'topic' in a pretend situation (unless you happen to have different areas available where you are, you can use real areas, even better!). Useful design areas are: around the kitchen, at the end of a borehole / well, on a khonde / porch, in a farmland area, near a khola, etc. Each group should have a different type of place to work on. Have the group design a guild for that area using either writing materials (markers or other dark ink that will show up well in a presentation) and paper; or using an area of the ground with whatever materials the group can find (bottle, cans, rocks, branches, flowers, etc.). While the groups are designing their area, be sure to walk around to each group and see if they have questions on the activity. Support them but don't tell them the answers, give them little hints to get them going in the right direction.

**2) Presentation:** After each group is finished (or time has run out) have each group present their design, explaining why they used the plants, trees, animals and other items, and why they put them where they did. After the presentation, ask for input from the rest of the group, encouraging people to complement good areas of design before adding ideas for improvement. You can be a part of this discussion, but your input should be minimal at this point. If you hear something that needs to be corrected immediately you might want to raise it now (in a positive manner) instead of waiting until the end, to let discussion about the point be made. It takes experience to gain the skills for guiding these discussions in a positive manner, but over time you can learn from each discussion and improve. After the group has exhausted their input, now it is your time to sum up the guild. Highlight the main good points and give the group encouragement for implementing the idea.

**3) Wrap up:** After all the groups have presented, wrap up the session highlighting the important lessons we can learn from nature if we observe and respect what it has to offer.

- **Make Changes in Steps:** Change can be gradual for those that need it. Most people are very used to straight rows and mono-crops. People rely on their agricultural systems for survival and may be scared to change. Help give people concrete ideas they can do.
- **Seed Starter Packs:** This can be helpful or it can be hindering, so care needs to be used in the approach and timing. People should first be encouraged to assess and collect their own seeds. Depending on the situation, handing out seeds may discourage someone to use their own resources and may encourage them to wait to be given inputs to start their own food supply. But, in areas that are completely devastated, or to help spread local varieties further, a start-up guild kit can get people going. Just make sure the seeds you provide can be saved and multiplied!