

Building a Pond

by Dennis and Meredith Murnyak

Choosing the site

You will need a good source of water – such as springs, streams and ground water. You can also rely on rain water. Rain-filled ponds often dry up in the dry season, so you must harvest the fish before the water level falls too low.

Soil containing clay is the best for building fish ponds because it holds water well. To examine the soil, dig a hole 1m deep and take a sample of soil



from the bottom. Moisten this soil and squeeze a handful of it into a ball, throw it about 50cm into the air and then catch it. If the ball falls apart in your hand this means it is not good for building ponds. Look for another site or use one of the methods of lining ponds described on page 5. If the ball holds together it probably has enough clay for a fish pond.

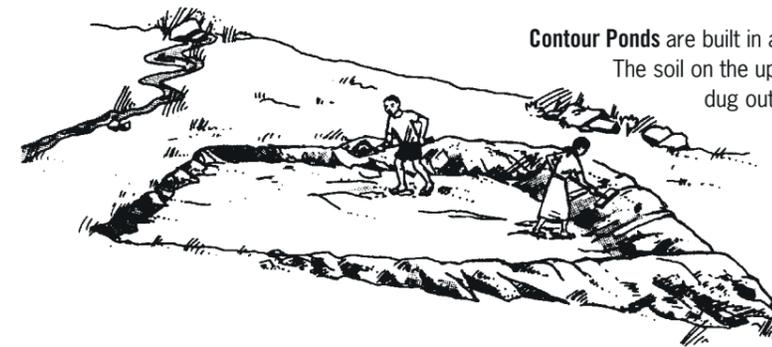
Pond design

Fish ponds should be built so they can be filled easily and drained completely. Rectangular ponds are easier to build and harvest than round or square ponds. The smallest pond we recommend is 10m x 15m (150 square metres). Ponds can be much larger, but for family use it is better to have several small ponds than one

large one. The water should be 30cm deep at one end and 1m deep at the other. You can dig it deeper, but make sure all the water can be drained out for harvesting the fish.



Dugout Ponds are built in flat areas by digging out the soil. Water level is below the original ground level.



Contour Ponds are built in areas with sloping land. The soil on the upper side of the pond is dug out and used to build up a dam on the lower side. The dam must be strong because the water level in the pond will be above the original ground level.

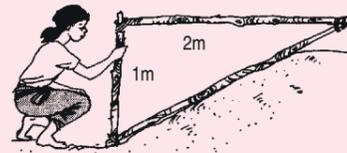
Adapted with permission from *Raising Fish in Ponds* by Dennis and Meredith Murnyak (see page 12). Illustrations by Barbara Knutson.

1 Prepare the site

Remove trees, vegetation and rocks. Measure and stake out the pond. Remove the top layer of soil and keep it outside the pond area.

3 Dig the pond and build the walls

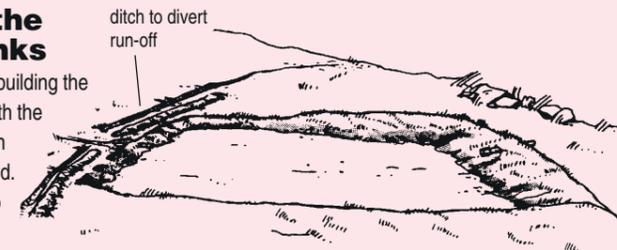
As you dig down, use the soil to build up the walls. Compact the soil as you build the walls by trampling it with your feet or pounding it with a heavy log. If you find poor sandy soil, throw this outside the pond area – don't use it for building the walls. The pond walls should be about 30cm above the water level in the pond. They should have a gentle slope, rising 1m in height for every 2m in length.



5 Protect the pond banks

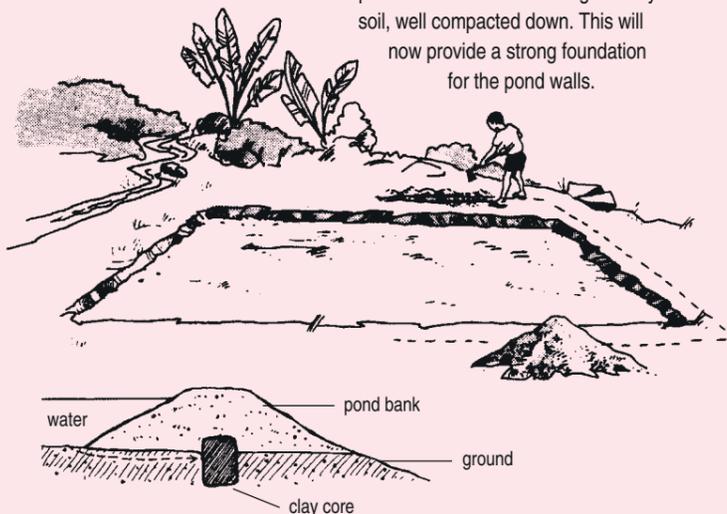
When you finish building the pond banks, cover them with the topsoil that you saved when you started digging the pond. Plant grass on the banks to protect them from erosion.

If you get heavy rains, dig a run off ditch along the upper side of the pond to carry runoff water away from the pond, preventing damage to the walls.



2 Build a clay core

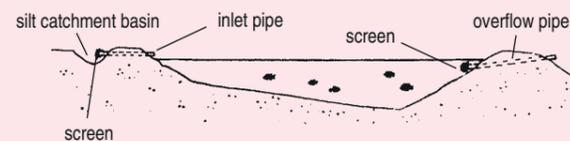
(if you are building a contour pond)
A clay core is like a foundation for the pond bank which makes it strong and prevents leaks. Dig a trench 50cm wide and 30–60cm deep (or until you reach the clay subsoil). This trench should be just outside the lower side of the pond and halfway up each side of the pond. Fill in the trench with good clay soil, well compacted down. This will now provide a strong foundation for the pond walls.



4 Build the inlet and outlet

The inlet pipe carries water for filling the pond. This water often contains a lot of soil which could make the pond very muddy. When digging the channel to bring in the water, dig a hole beneath the inlet pipe. This will allow soil to settle and prevent the pond from filling up with dirt.

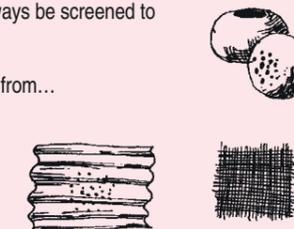
The inlet pipe runs through the pond wall into the pond. It should be screened to prevent wild fish from entering. It should be about 15cm above water level. This prevents fish from escaping through it and mixes air into the water as it splashes into the pond.



The outlet is an overflow pipe through the pond wall which is only used in emergencies. Water should **not** normally flow out of the pond. The outlet should always be screened to stop fish leaving the pond.

Suitable screens (right) can be made from...

- wire mesh
- a clay pot with holes
- a piece of metal with holes
- mosquito netting.



6 Build compost fences and add fertiliser

Build the compost fences when the pond is dry, using sticks that will not rot. Fill the baskets and spread a layer of manure on the bottom of the pond, before filling with water.



7 Filling the pond

Place rocks on the pond bottom where the water will splash in from the inlet pipe. This will keep the water from digging a hole and eroding the pond bottom. Do not over fill the pond so that water flows out.

Fill the pond at least two weeks before you stock the fish. This allows the pond water to become warm and fertile before fish are stocked. The pond may seep water at first, but should seal eventually as mud and fertiliser build up on the bottom.