

August 2012



# Tower gardens and grey water



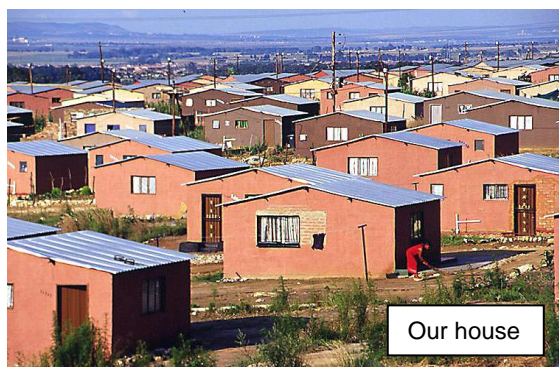
# Wavecrest Primary School's story ...

The story I would like to tell began when I heard my mother and father talking about the cost of food.

Last year a cabbage was R5; it now costs R7. I got more worried when they said we could no longer afford some of the vegetables we have always enjoyed.

My grandmother said vegetables had tasted good in the olden days, when her family had a garden. But the RDP houses are so close together that there is little garden space for growing vegetables.

Another problem is that my sisters and I have to collect water from the river or stand in long queues at the only street tap. I was worried because if my grandmother started a garden, we would have to collect more water.



In agricultural class a few weeks later we learnt how vegetables are grown. Most of them are grown as a monoculture and pesticides are used to kill the insects that eat the crops.

It sounded impressive, but I didn't know what was meant by 'monoculture' or 'pesticides'. That afternoon I used the school computer that had Internet and did a definition search. I learnt that *monoculture is the practice of producing or growing one single crop over a wide area*. Vegetables are grown like this as it is an easy way to grow plenty of cheap food. I did a



Google image search and found many photographs of what this looks like.

I also learnt that because the same plants are all growing in one area it becomes a delicious feasting ground for cabbage worms who love to eat cabbages, or cucumber beetles who eat cucumbers.

This is why pesticides are used to kill these cabbage and cucumber eating bugs. *Pesticides are chemical compounds used to control undesirable plants and animals. They are toxic to some degree and can kill beneficial earthworms and organisms. They can be a threat to people if overused or carelessly applied.* I began to wonder whether it is a good thing to be having cheap abundant food if it means pesticides have to be used that could be harmful to human health.

A couple of days later our teacher announced that an expert in gardening was going to take our agricultural class. What I remember most was his passion and how excited he became when he started talking about the benefits of a gardening technique he had begun using and teaching in many primary schools similar to Wavecrest.

This gardening technique he called 'tower gardens' which he said works very well in areas where space, water and heat are limiting factors to gardening. I started listening closely.

These are the very conditions that have been preventing my family from gardening. He explained that tower gardening is one of the most innovative and user-friendly ways to use grey water which he explained is any water that was not used in the toilet but that is normally thrown away. It includes water from the sink, bath and laundry tub.



On the chalkboard, he drew up the steps to make the tower garden the materials that we would need. I copied them to show to my grandmother.

Our school had recently joined the Eco-Schools programme. Our teacher, Mrs Jadi, asked us if we would like to make our own tower garden as our project. It seemed that everyone was as excited about tower gardens as me because we all said "YES PLEASE!" So that's exactly what we did.



The next day we used our lesson to plan how we were going to make the tower garden, where we could collect everything we needed, and what vegetables we should grow together.

Our teacher introduced us to a gardening technique called 'companion planting'. She gave us a sheet of information on useful plants to grow and which ones grow together well. After reading this we decided to grow onions and garlic as they biologically control diseases and pests.

Our teacher also gave us a sheet on the value of composting and how to make a compost heap. We decided to start our own compost heap to improve the quality of our soil.

It took us almost a week before we had made a tower garden that worked.

There were a number of challenges and I realised that it does need some experience and skill to make one properly. But the results were worth all our effort. In only 10 days



we saw tiny spinach, tomatoes and a variety of herbs beginning to grow. After five weeks we enjoyed eating our first harvest of delicious school-grown spinach.

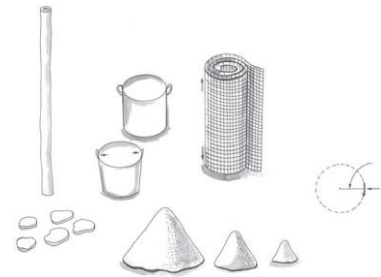
We had learnt how healthy vegetables can be grown with a little effort and not much cost. What I also liked was how we were reusing our water to grow things to eat.

**Note: In continuing work with tower gardens, where very soapy water is used it is best to use a water filter.**

# Making a tower garden

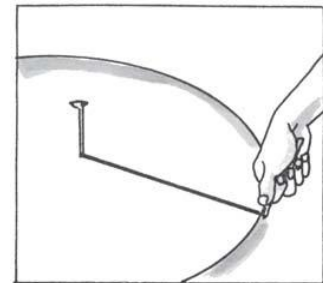
## You will need:

- Shade cloth 2.5m long and 1.2m wide
- 5 wooden stakes (at least 2m long)
- Bucket with no bottom
- Flat stones to fill the bucket
- Soil that is 3 parts soil, 2 parts manure and 1 part ash

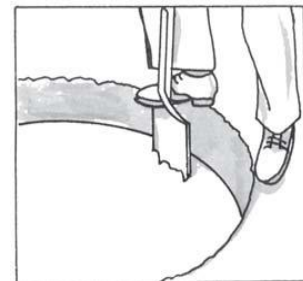


## What to do:

**Step 1.** Mark out a circle – 40cm diameter for 2,5m wide shade cloth.



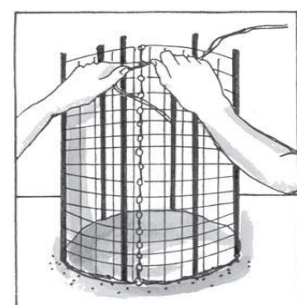
**Step 2.** Dig out the bottom layer of the tower.



**Step 3.** Plant the side poles or droppers firmly into the bottom.



**Step 4.** Wrap the shade cloth around the poles and tie the ends together to make a cylinder.



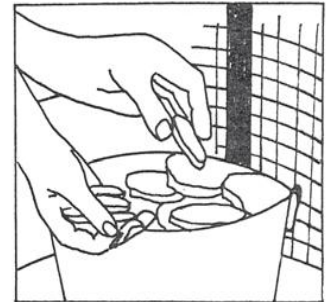
**Step 5.** Roll the sides of the shade cloth cylinder down out of the way before filling.



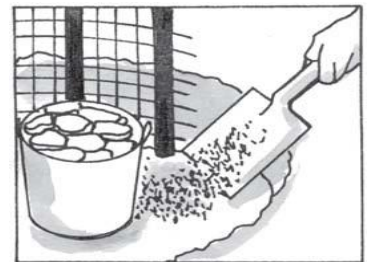
**Step 6.** Place a bucket (bottom removed) on the ground in the middle of the tower.



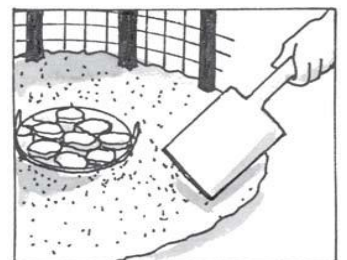
**Step 7.** Pack stones carefully in the bucket to make sure that the water does not run through too fast.



**Step 8.** Backfill around the bucket with the soil mixture.



**Step 9.** Dampen and smooth soil but do not compact.



## Step 10.

Pull the bucket partially out, leaving the stones in position. Fill the bucket again with stones and backfill with soil. Repeat for each layer.



## Reference

Crosby, C. 2005. *Food from Used Water: Making the Previously Impossible Happen*. *The Water Wheel*. January/February.  
<http://www.dwaf.gov.za/Events/WaterWeek/2005/Documents/WaterWheelJan05d.pdf>



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