

Teaching Ecological Sanitation at Chisungu Primary School, Epworth, Zimbabwe



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Every family needs a toilet!

Why not teach the method at school!

Simple ecological toilets which can be improved to VIP toilets can be made cheaply if the method is known.

Also the effects of toilet compost and urine can have a very marked effect on plant growth, especially maize, green vegetables and trees. This valuable technique can also be taught at school.

The school is an ideal environment in which to teach these new methods to new generations of young Zimbabweans and also to senior members (teachers) of the communities.

Skilled educators are required also from a younger generation.



The school site

Chisungu Primary School in Epworth was established in 1938. Currently 2500 pupils are being educated there taught by dedicated teachers.

There are orchards, vegetable gardens and a school hand pump



Introductory talks

Mrs. Annie Shangwa is the senior trainer/educator on this project. She has much experience in this area of work. Introductory talks were undertaken in the classroom. Miniature concrete models and flip charts were used as educational tools. The course is being held in the Shona language.



The lecture also included a lesson on how to make simple hand washing devices. These should be fitted to every toilet. The use of alloy and tin cans and plastic bottles was demonstrated.

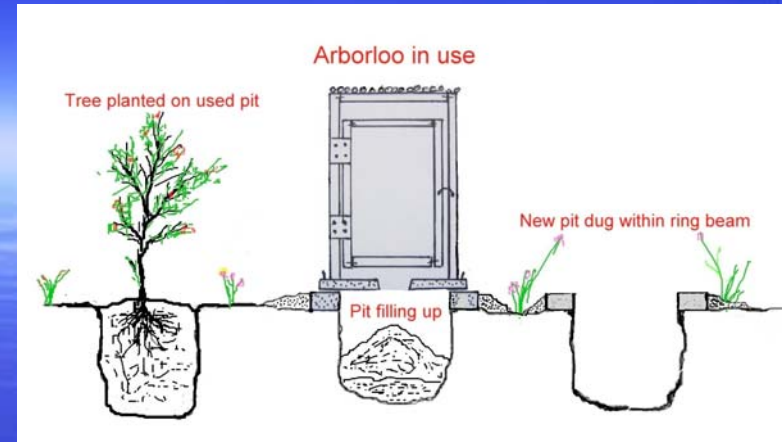


Construction of low cost toilet

The lessons included practical sessions on the construction of simple and upgradeable toilets like the Arborloo.

The Arborloo is the simplest ecological toilet. It is a shallow pit toilet where ash and soil are added to the pit together with excreta. The ash and soil help to reduce fly breeding and odour and also help the excreta to turn into compost in the pit. When the pit is nearly full the parts of the toilet are removed to a new place and the pit is filled with soil

A tree is planted and cared for. It is the simplest way of recycling nutrients from human excreta



Construction of low cost toilet

Clearing the area and marking ground for slab and ring beam



Mixing and pouring the concrete for the ring beam



Making the concrete slab. This is 1.1m in diameter and made with squat hole and vent hole. It is made of cement and river sand. Some wire is added.



*Slab and ring beam almost complete.
Both are cured for one week and kept wet.*



Digging the hole inside the ring beam and ramming the soil around it. The hole is dug down to one metre only. It is safe!



Moving the slab on to the ring beam



Drilling the holes for the superstructure poles. This type will have a spiral (door-less) shape and is made of poles and grass. Structures with doors can also be built. If a door is used on a VIP toilet, it must be self closing.



Mounting the poles and roof timbers



Adding a plastic sheet over the reeds of the roof and grass to the walls



***Making and fitting a hand washing device.
This is an important part of the toilet.***



Finishing off – the Arborloo – without vent.



Vent pipes

If the simple toilet is to be upgraded to a VIP it must have a vent pipe. The training includes teaching methods of making low cost vent pipes with wire, reeds and cement slurry.



Fitting low cost vent pipe to structure. Once a screened vent pipe is fitted to a structure which provides semi darkness – it becomes a VIP toilet.

VIP's are popular in Zimbabwe!



***-Finishing off –
A vented Arborloo is a a low cost VIP!***



*-Most species of tree grow well on “Arborloo pits”
and also some vegetables like pumpkin and
tomato.*



Experiments are also being undertaken in the school garden to demonstrate the effectiveness of toilet compost and urine on the growth of vegetables and trees.



The various vegetables and trees are planted in miniature gardens using urine and compost.



School Class Experiments with Urine.



This new programme is in its infancy. Training manuals designed for school children are now being written.

These cover toilet construction, making vents, hand wash basins, and other accessories.

Also the plant experiments are described in manuals.

These methods are to be disseminated into the surrounding communities where interest is shown.