The Chisungu Primary School Water and Sanitation project

How to make simple pedestals

Peter Morgan
and Annie Shangwa

Pedestals offer comfort for the elderly and also for the disabled.

Very effective pedestals for sitting on toilets can be made with standard plastic buckets and concrete. If Portland cement is available the mix is one part cement to 3 parts sand. If masonry cement is available it may be best to make a 1:1mix. It is possible to make both a standard pedestal and a urine diverting pedestal using a 10litres bucket and concrete. The bucket provides the inside of the pedestal with a smooth wall which can be cleaned down. The outer shell of concrete (with some wire reinforcing) offers strength and durability. The unit can be painted in bright enamel paint colours once the concrete has been allowed to thoroughly cure and dry off.

The standard pedestal

A 10 litre plastic bucket is used and the base sawn off. The bucket is placed base down on a piece of clear plastic and a mark drawn 75cm around the bucket. To keep it secure a weight is placed on top of the bucket.

A mix of cement and river sand is now made up. If Portland cement is used the mix is 1 part cement and 3 parts river sand. If masonry cement is used a 1:1 mix is used. The concrete can be mixed in small lots with a litre of cement being mixed with the sand at any one time. The concrete is made into a neat round shape with a trowel. A ring of 3mm wire is placed inside the concrete.

This ring of concrete will become the seat of the pedestal. Additional concrete is then added half way up the side wall of the bucket. This is covered with a plastic sheet and allowed to cure for 2 days. The following morning the concrete is wetted down and a ring of 3mm wire prepared and wound around the middle of the bucket. The bucket is then carefully turned over.

The base of the pedestal is built up in the same way using the same mark on the plastic sheet. A 3mm wire ring is placed in the concrete. The concrete is shaped neatly so that upper and lower layers meet to form a strong shell around the bucket. The pedestal is then covered with plastic sheet. The next day it is watered and kept wet for at least 7 days to cure.

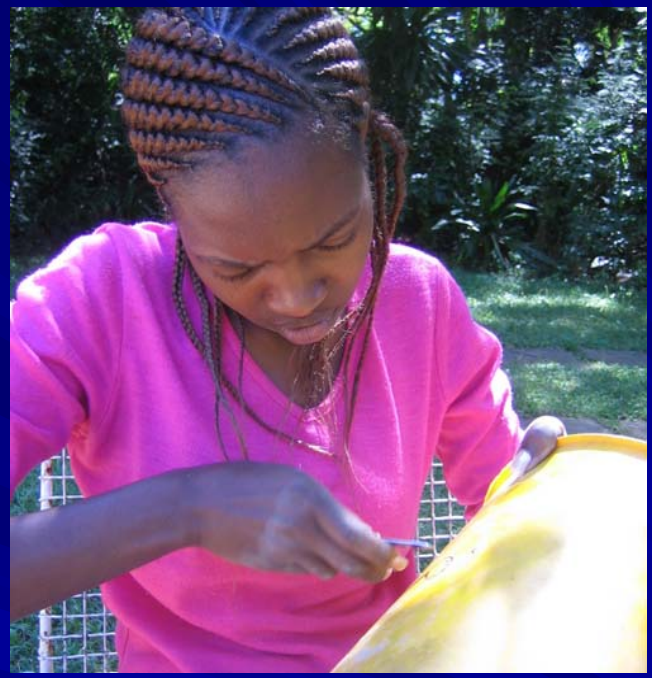
After this period it is allowed to dry out in the sun. The seat section is then filed and sanded down to make it smooth. It can then be coated with enamel paint. Bright colours are best!

With a little practice the technique can be learned by school children.

Pedestals are useful especially for older people.

Using red oxide mixed into the concrete a really smart pedestal can be made. people.

Making to low cost urine diverting pedestal



The base is cut off a 10 litre bucket. Carefully using a sharp knife a hole is made in the side wall of the bucket to take a 20mm poly-pipe fitting.

The hole must be cut precisely so the plastic pipe fits tight.

A tin sheet is cut from a opened up tin can, flattened and then cut into shape. This fits inside the bucket to form the urine diverter. It is held in place by wire.

The position of the tin sheet is marked and a series of holes are made in the bucket with a hot wire.

Wires are then used to secure the tin in position. The wires are bent over the tin sheet.

One wire passes along the top of the tin sheet and through the bucket and is bent over at each end. This secures the tin well. Chewing gum is used to make a seal between the bucket and the tin sheet. The sheet can be replaced later if required. The wire is best galvanised so it lasts longer.

A mark is made around the bucket about 75mm away in a circle. Using a concrete mix and careful shaping the seat of the pedestal is built up. If Portland cement is available a 1:3 mix can be used (3 parts river sand and 1 part cement). If masonry cement is available the mix is 1:1. Make the concrete up in small quantities using a litre of cement at a time. A 3mm wire ring is inserted in the concrete. In this case the wider part of the bucket will be uppermost and have the seat formed around it. This is left to cure for a day.

After a full day of curing the bucket is turned over and placed back on the plastic sheet. More concrete is missed and built up around the base and also around the side walls of the bucket and around the plastic pipe. The concrete is then allowed to set overnight and then is cured over the course of a week or more. It is kept wet at all times to allow the concrete to develop full strength.

It is important that the concrete work be allowed to cure fully to gain maximum strength. After this period the pedestal is placed in the sun and allowed to dry out completely.

Rough edges are filed down with a steel file or smoothened with course sand paper.

After this the concrete can be painted with brightly coloured enamel paint. The unit will still work if not painted, but is more attractive if brightly coloured. The urine pipe placed above slab level makes it possible to divert the urine to a tree or plastic container even when the toilet is placed over a pit.