

# Note from the field

## Teaching schoolchildren about handwashing: Experiences from Zimbabwe

PETER MORGAN AND ANNIE SHANGWA

*This article describes simple, easy-to-construct devices that can deliver water for handwashing even when water is in short supply. Together with soap, or ash if soap is unavailable, these devices have been used at home or in schools in Zimbabwe.*

**Keywords:** handwashing, school sanitation and hygiene education, alloy can, screw cap bottles.

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For many years handwashing tanks have been built by the Government's School Sanitation Program

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FOR MANY YEARS handwashing tanks have been built at schools as an integral part of the Government of Zimbabwe's School Sanitation Programme. The standard school sanitation option in Zimbabwe is the multi-compartment Blair VIP, where 10 cubicles are built side by side over a large pit which is subdivided with one pit being linked to one cubicle. Urinals are also built, mainly for boys. Brick water tanks are often built alongside the toilets. These are fitted with taps which have flow rate reducers. Water is brought in by the pupils and added to the tank. However if water is scarce, the tanks can dry up. It is a dilemma that many schools face.

As part of an ecological sanitation pilot study being undertaken at the Chisungu Primary school in Epworth, close to Harare, school-children are taught how to construct simple handwashing devices which they can build and use at home. There are many ways of constructing these devices, and their regular use can improve personal hygiene immensely. And it is not only at the rural or peri-urban school that such handwashers can be used. The main cities of Zimbabwe are also short of water, and these simple devices find a place even in the most luxurious of homes.

### The handwashing component of the schools project

The aim of this part of the schools ecological sanitation project was to show how simple and effective handwashers could be made using

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These simple methods make the most of soap and water when they are in short supply

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Simple and effective handwashers could be made using discarded cans and plastic bottles

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discarded cans and plastic bottles. The methods proved to be popular because they cost almost nothing and were really useful in the home-  
stead. Several methods were taught.



Some of the handwashing devices only take a minute or two to make

## A range of options

Until a few years ago, alloy cans were unheard of in Zimbabwe, but now they find their way into litter in their countless thousands. Plastic bottles used to market soft drinks are also abundant. How can such thrown away items be recycled with effect and turned into something really useful? The handwasher is one of the best examples. There are many types.

### *Screw cap bottles*

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Where taps no longer yield water, the ideal handwasher consists of a round plastic bottle fitted with a screw cap

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For the homestead, where a tap has been fitted but no longer yields water (not an uncommon situation in Zimbabwe) the ideal handwasher consists of a round plastic bottle fitted with a screw cap. The type with a little ribbing helps as this is firmer. Only one thing needs to be done, and that is making a small hole near the base of the bottle. This can be made by heating a steel nail (about 2–3 mm in diameter) and pushing it through the plastic at some point on the lower rim. The bottle is washed and filled with water and the cap screwed back on. This can be placed on the handwash basin or hung at some convenient point. As long as the cap is screwed up tight, water will not drain from the bottle through the hole. But as soon as the screw



A two-litre bottle of water is enough to wash many dirty hands.



Wire is cut and passed through the two upper holes and twisted to form a handle with a hook on the end

cap is loosened water will flow. Air entering at the top allows water to drain from the hole. Quite simple and it works. A 2-litre bottle full of water is enough to wash many dirty hands.

### *The alloy can*

This one is popular and only takes a minute or two to make. First, the can top is removed with a can opener. Then three holes are made in the can. Two at the top to take a wire handle and one at the base to release the water. The holes can be made with small nails (2–3 mm) and a hammer and are offset as shown in the photos. Some wire is cut and passed through the two upper holes and twisted to form a handle with a hook on the end. This is hooked up to the toilet or a tree or some other stand near the toilet (the stand is outside). This technique works by dipping the handwasher into a container of water, hanging it up and allowing the water to drain over the hands. Used water can drain over flower or herb beds. Suitable containers can be made of 10 litre buckets, but these are in great demand, and clay pots and other vessels can also be used.

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Dip the handwasher into a container of water, hang it up and allow the water to drain over the hands

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### **A move away from the common washing bowl**

In each of these cases fresh water is used to wash the hands and this then goes to waste. The communal bowl, used extensively in traditional practice in former years, has become a thing of the past. Years ago a common bowl was used by all to wash their hands before a meal – the first user had fresh water and those that followed used water that may have been contaminated. This technique has now been replaced by a technique where fresh water is poured from a container over the hands and only then into the bowl. This simple change of habit has made huge differences and reduced the passage of hand-borne disease from one person to the next.

### **And soap?**

Soap is thought to be as commonly available as bread in most countries, but it is treated with care in Zimbabwe. For many the block of soap is used not only for washing the hands and body but also for washing clothes. In the absence of soap, wood ash makes a fine substitute. And for a nation that uses firewood as the most common fuel for cooking there is no shortage of ash. Wood ash washes the hands well. It works as a mild abrasive when mixed with water and is mildly alkaline. Such a combination is ideal for cleansing the hands, even those harbouring pathogenic bacteria.

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Used water from the can drips onto the flower bed.

### Can hands contaminate the device?

Dirty hands can contaminate anything they touch, and this is as true for the handwashing device as it is for the most glamorous of taps. The method seems to be to use one hand for the tap or device and the other for anal cleansing. Left hand – right hand! Where wire handles are hung up in the sun and in the open they quickly dry off and get warm. The wire handles are not the best place for bacteria to multiply. The plastic cap used inside may be a better place for bacteria to gain

a hold. But it is the same for a tap, or a door handle for that matter. One takes steps that help.

### Uptake

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Many schoolchildren have been taught these techniques in school open days and public events

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Many schoolchildren have been taught these techniques and the methods have been described in school open days and even public events where schoolchildren have come together to demonstrate how they recycle 'waste' objects including cans and plastic bottles. At a recent event, the children made large numbers of handwashers which were handed out to the participants. Once seen it is easily copied.

It seems remarkable that even in a city such as Harare such simple devices can have an important role to play. But running water can be scarce and this is true for much of rural Africa, where the closest supply of water may be far away. In such cases methods which use water economically have great value. If they cost almost nothing to make and suitable hardware is either directly available or can be made available easily, then it makes sense to teach and promote the simple concepts.

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Even in a city like Harare such simple devices can have an important role to play

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At one open day at the school, the parents and visitors wondered what this hanging can could do. That was until the little boy dipped the can into water and washed his hands. Then there was 'an uproar of delight'. Something new and valuable had been taught and passed on.



Wood ash washes the hands well in the absence of soap