

## MAKING WATER SAFE

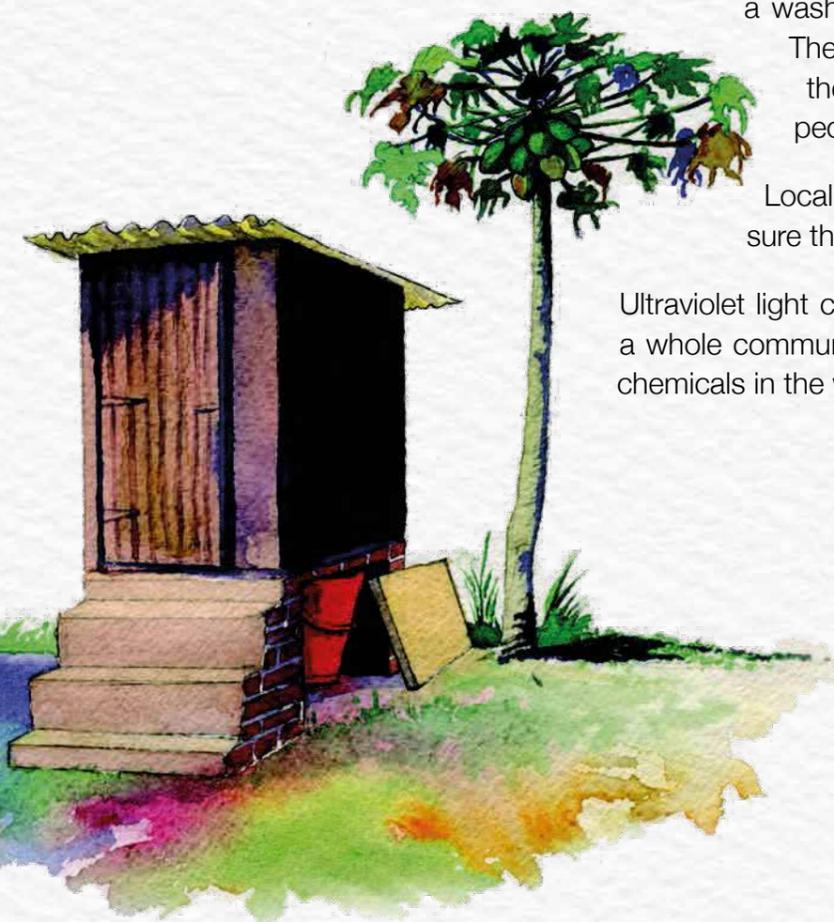
Simple water treatment techniques for use at home can change lives, easily and quickly. Boiling - making sure that water is bubbling at 100°C - can kill disease organisms. However, water does not necessarily need to boil to be safe to drink. You can use a solar cooker to heat water up and keep it at a temperature of at least 65°C, long enough to kill pathogens. This is called solar pasteurisation. Putting water into a clear plastic bottle and leaving it in the sun for at least 6 hours can also make it safe. How fantastic that shining up there in the sky may be the solution to your dirty water problems, free and easy to use. Chlorine tablets and water filters can also be very useful.

At Rugusu Springs in Kenya, people used to water their cattle, wash their clothes, bath and collect drinking water in the same place. People were getting ill, both in Rugusu village and further downstream. They solved the problem by fencing off the spring, and piping the water into three concrete channels. One leads to a watering place for cattle, one to a washing and bathing area for village use.

The third goes back into the stream. Now, the community is healthier, and so are people living down-river.

Local councils or government can make sure that clean water comes through taps.

Ultraviolet light can be used to disinfect the water for a whole community. This avoids the use of too many chemicals in the water.



**i** **ACTION SHEETS -**  
23: Making Water Safe,  
24: Water Filters,  
25: Solar Pasteurisation,  
26: Building Toilets

**▶** **Watch the films**  
**on Eco-san Toilets**  
**and A Community**  
**Spring**

## Use a toilet (but not a water closet)

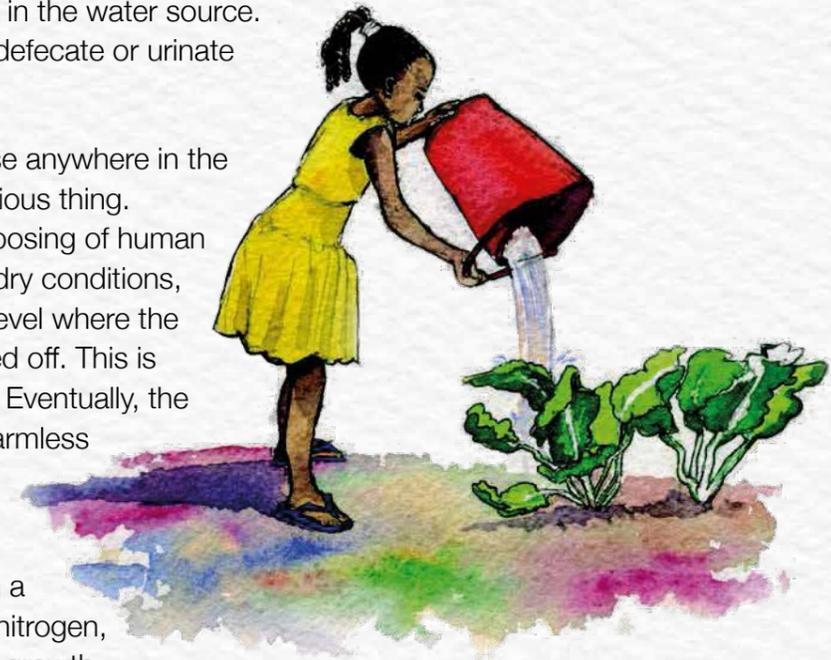
192 million people have schistosomiasis in Africa. If people did not use canals and streams as toilets, this disease would probably not exist in many places.

Stop faeces and urine from getting in the water source. Do not allow people or animals to defecate or urinate near the river or well.

Using water in a toilet is very unwise anywhere in the world because it is a rare and precious thing. There are many clever ways of disposing of human excrement. If it is allowed to rot in dry conditions, the temperature will increase to a level where the harmful pathogens (germs) are killed off. This is what happens in an eco-san toilet. Eventually, the human faeces can be used as a harmless and rich manure. It is a smelly but worthwhile process.

In an eco-san toilet, urine is kept in a separate chamber. Urine contains nitrogen, which is a crucial element for plant growth.

In rivers it can cause destructive eutrophication, overgrowth of algae, which blocks the light on the river bed and kills off plants and animals. On your crops, however, it can work miracles. Maize can grow to more than twice the size! Urinating in the right place – in an eco-san toilet and not in the river – is a win-win situation.

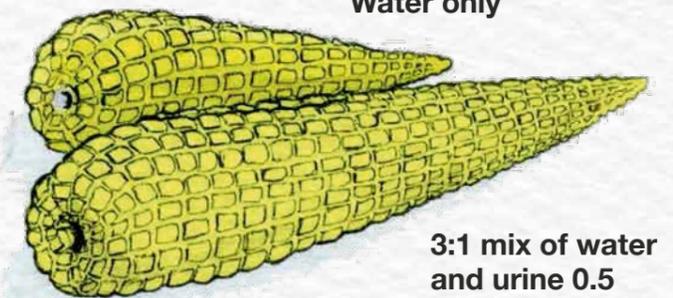


## Maize Experiment

In an experiment conducted by Aquamor in Zimbabwe, maize plants were grown in 10 litre cement containers and fed with varying amounts of urine.

## the results

**Water only**



**3:1 mix of water**  
**and urine 0.5**  
**litres, 3 x a week**