

The Mukombe

(Zimbabwe's first "tippy tap")

A description of its value and use



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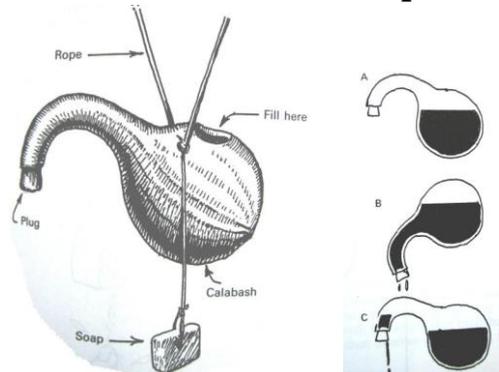
Introduction

Over 30 years ago, Dr Jim Watt, a salvation army doctor working with Jackson Masawi in Chiweshe, devised a remarkably novel hand washing device, known as a Mukombe. This vegetable had a hard shell and could be used as a gourd or calabash for carrying water and other commodities. It is commonly grown in the fields. The great innovation was to turn this common plant into a hand washing device. This innovation was one of the very first hand washing devices which became known as “tippy taps.”



Naturally occurring Mukombe

How it works – a description



Drawings by Jim Watt of his Mukombe

Modifications are made to the naturally occurring Mukombe. An opening is made in the top and a cork or plug is placed at the end of the neck as shown above, with a small opening for water to drain. Holes are drilled into the top of the mukombe and a string passed through. The mukombe is suspended by the string so that it lies at a special angle. The mukombe is filled with water and then tipped up so that some water passes up the neck. When the mukombe comes to its resting position again, some water is left at the end of the neck and slowly drains out. It is this water which is used to wash the hands. The flow stops automatically when the small reservoir in the neck runs out.

A fibre-glass replica of the Mukombe.

Having seen this remarkable innovation, staff at the Blair Institute built artificial replicas of the Mukombe in fibre-glass to test effectiveness. This was partly because many naturally occurring mukombe gourds did not have the ideal shape. These replicas were designed to provide optimum performance, whilst retaining the same natural appearance. One of the best replicas, shown below, has been preserved, and has a water bowl capacity of 2 litres and a discharge volume (at each tipping) of 50mls. Thus at a single filling it could perform 40 hand washes. The rate of flow of water depends on the size of the hole at the end of the spout, that volume of water held in the spout depends on the angle of the mukombe at rest. The position of the holes made for string suspension are critical. The amount of water saving can be critical. A good hand wash with a normal tap (including soaping) may take 500mls of water.



Early man-made fibreglass replica of the Mukombe

Commercial production.

In 2013 Prodorite, a Harare based plastics engineering company took on the challenge of mass producing the Mukombe. Using xxx as a material and an injection moulding process, Prodorite are able to make replicas of the mukombe, which can be painted in many colours.



The Mukombe - Zimbabwe's "tippy tap"

Mounting the Mukombe

The Mukombe can be mounted anywhere where water drainage is possible. In the garden, next to a toilet, even over a sink if the mukombe is suspended from a stand.



Next to a garden toilet with soap nearby



In the garden, over the sink

Use at a school



The mukombe is a simple yet effective device for washing hands in the home, garden or at institutions where water is scarce.