

## Volunteer Report Rain Tree Foundation

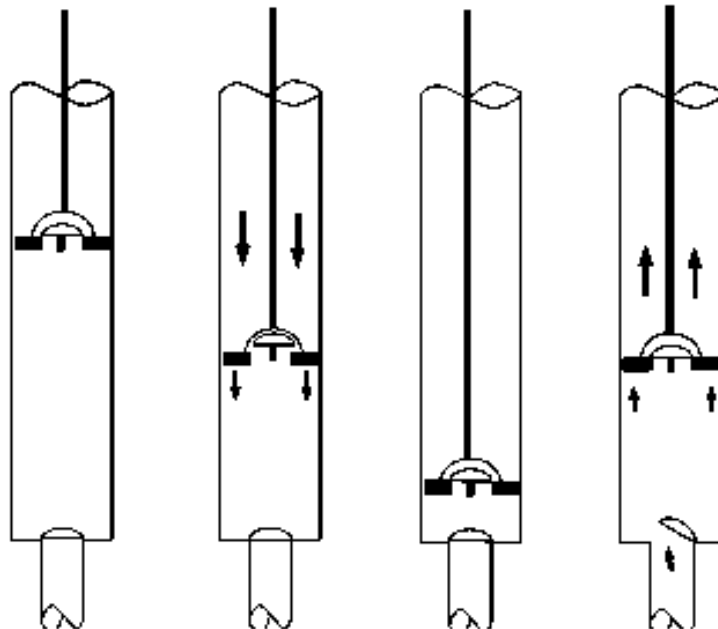


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### Research Rower Pump

This month we made some research about a sustainable and reliable water pump system. This system is called Rower Pump. A Rower Pump works without using external sources like gasoline or electricity it just need some human power. Most types of groundwater pump have a piston that moves back and forth inside a two-valve cylinder (a valve allows water to pass in only one direction - in this case, upwards): Suction pumps have the cylinder situated above ground or near the surface. This means that they can only be used for shallow wells. It is called a suction pump because pulling up on the piston creates a low pressure ("suction") in the cylinder, causing the atmospheric pressure outside to push the water up to the surface. Because atmospheric pressure is fairly low, the pressure difference between inside and outside the cylinder is only large enough to raise water from a maximum depth of about 7 meters.



## Rower

The rower pump is a simpler and cheaper version of the traditional piston pump (see below). The simple design means it can be easily manufactured and maintained using locally available skills and materials. This type of pump may require "priming", which means pouring water into the cylinder so that the seal around the piston is airtight.

