

# Pedal Powered Water Pump



Pump Design by Carlos Marroquin

Illustrations by Henry Godfrey

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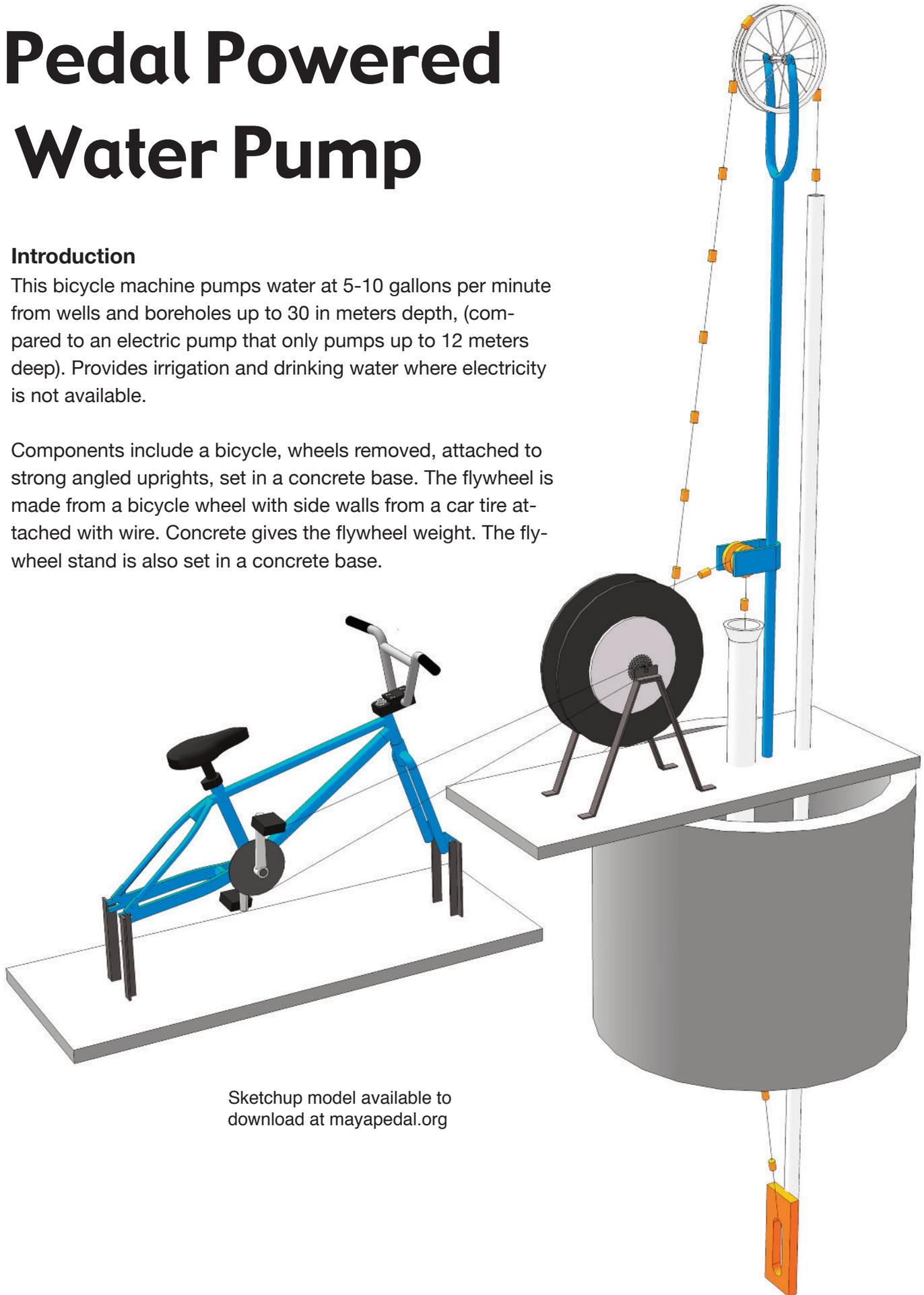
Version 1

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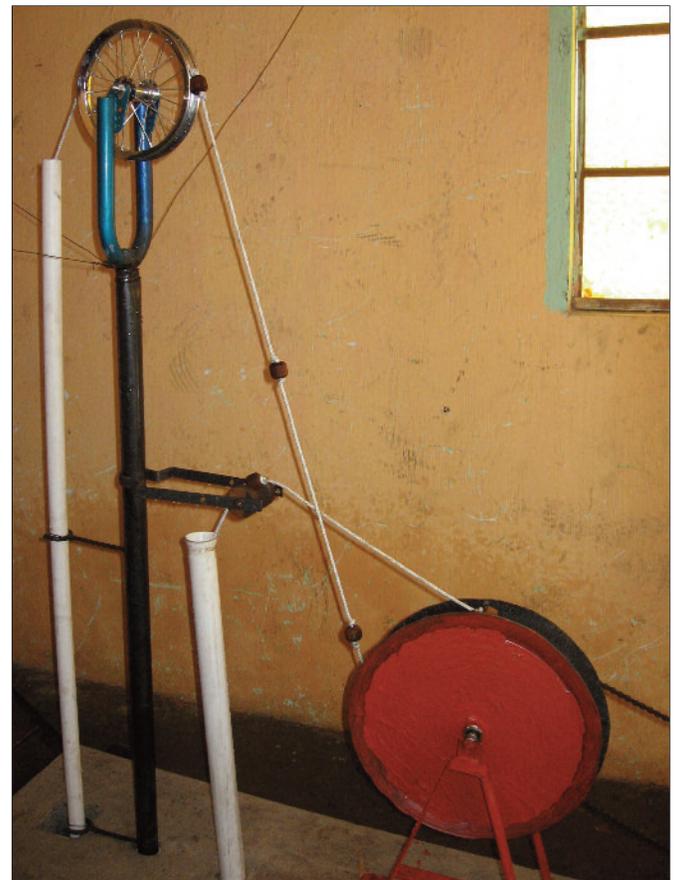
## Introduction

This bicycle machine pumps water at 5-10 gallons per minute from wells and boreholes up to 30 in meters depth, (compared to an electric pump that only pumps up to 12 meters deep). Provides irrigation and drinking water where electricity is not available.

Components include a bicycle, wheels removed, attached to strong angled uprights, set in a concrete base. The flywheel is made from a bicycle wheel with side walls from a car tire attached with wire. Concrete gives the flywheel weight. The flywheel stand is also set in a concrete base.



Sketchup model available to download at [mayapedal.org](http://mayapedal.org)







## **About Maya Pedal**

Maya Pedal is a Guatemalan NGO based in San Andrés Itzapa. We accept bikes donated from overseas which we either recondition to sell, or we use the components to build a range of "Bicimaquinas", (pedal powered machines).

Pedal power can be harnessed for countless applications which would otherwise require electricity (which may not be available) or hand power (which is far more effort). Bicimaquinas are easy and enjoyable to use. They can be built using locally available materials and can be easily adapted to suit the needs of local people. They free the user from rising energy costs, can be used anywhere, produce no pollution and provide healthy exercise.

We make water pumps, mills, tile makers, nut shellers, blenders (for making soaps and shampoos as well as food products), trikes, trailers and more.

## **In Guatemala**

We have a busy workshop staffed by locals and by volunteers from around the World. As well as building Bicimaquinas, we offer a bike repair service and sell used bikes.

The project is managed by Maya Pedal founder Carlos Marroquin, a skilled engineer and the inventor of many Bicimaquinas.

We also work with a number of local partners, NGO's, agricultural cooperatives and organic producers.

## **Internationally**

We are supported by a number of international organizations. We also accept volunteers with a range of skills and interests.

## **Contact us for more details.**

[www.mayapedal.org](http://www.mayapedal.org)

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