

## Background

The modern Rope pump models are based on the ancient principle of the "Rope and washer" pump. With new design inputs and modern material the Rope pump has become very efficient.

This development started some 18 years ago in Nicaragua, supported by Dutch development aid. Today Rope pumps are produced commercially in Nicaragua and are the national standard pump for rural water supply, used by organizations like COSUDE, UNICEF and CARE.



More than 70,000 pumps are installed in Nicaragua produced by some 20 local workshops. The technology is spreading around the world and more than 3 million people are now using Rope pumps.

## How it works

The basic elements of a rope are an endless rope with conical shaped pistons at every meter. The rope with pistons is lifted with a wheel. In this way water is lifted between the pistons to the surface.

## Features of the Rope Pump

- ✓ Water can be lifted from depths of 1 to 65 Meters (200 Ft)
- ✓ The rotating movement avoids dynamic forces, a problem in traditional deep well piston pumps.
- ✓ All parts of the pump can be produced with local skills and materials.
- ✓ Repairs can easily be done by users or local caretakers.
- ✓ It is affordable – in India a Rope Pump cost around Rs 2,150/-. The total cost of one pump and bore well of 15 m is around Rs 7,500/-.
- ✓ Because of its low cost and simple design this technology has proved to be very sustainable. Evaluations have shown that if the pumps are introduced properly, over 90 % are working, even 10 years after installation.

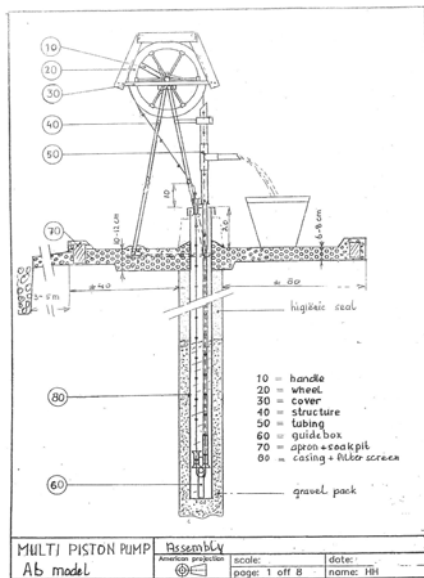
## Different models

There are 2 hand Rope pump models, the AB Model (A-structure Boreholes) with a structure of galvanized pipes and the P Model (Pole) with a handle mounted on poles. Beside hand Rope pumps there are models powered by pedals, horses, electric or gasoline engines and wind energy. After the success as a pump for village water supply, Rope pumps are now being used for low cost irrigation.



## Benefits of the Rope pump in areas of Tamil Nadu affected by the Tsunami

After the tsunami water became saline in many wells and for some time it is not fit for drinking or irrigation. But rains from the last monsoons have been stored in shallow aquifers. The rope pump appears to be a low cost option to pump sweet water from depths of 5 to 30 meters. In the Green Post Tsunami Action- project 60 Rope pumps have been installed, each serving between 15 and 50 families. These families now have access to water around the clock, which has made the pumps very popular.



## How to get a Rope pump

The superstructure is at the moment being produced at several local workshops.

The rope pump technology is free for everyone to use, as its goal is to provide water to people in need. However, in case you consider introducing Rope pumps in a new area it is strongly advised to do this with experienced technicians and trainers. This to avoid errors in installation and use and with that causing a failure of the pump.

GPTA has installed 60 Rope pumps and will set up additional 125 pumps.

Assistance and training can be provided by the partners in the project:

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## Green Post Tsunami Action

Introduction of the Rope pump



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