

Zero Energy Water Lift Pump

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Treadle pump is a zero-energy water lift pump that works on the principle of simple stepping motion. This pump is a manually operated suction pump that draws water from pond or well by the process of by stepping up and down on a treadle. These pumps are most suitable for our Islands to provide small scale lift irrigation facilities without using any external energy. Hence, it runs without electricity and zero operational cost, which makes the treadle pump suitable for marginal farmers. For a typical marginal farmer, problems like suction of water, lifting of water, transporting water and irrigating their plot can be easily solved by treadle pump. It can be used for any application where pumping of water is necessary, in case of sudden power cuts, load shedding etc.

The components of pump include: 2 inch delivery pipe and nipple, 1.5 inch suction pipe and outer nipple, and foot valve with nipple. The treadle pump can suck water from 15 ft maximum depth, lift water up to 45 ft enough to fill an overhead tank, and it can transport water up to 1 km. This pump can easily run @ 5000 litres per hour. The treadle pump weights just 12 kg and can be taken from one island to other with minimum efforts. Using treadle pump one can irrigate almost 1 acre of land. Moreover, this pump is women friendly, and it can be used easily by the women farmers to cultivate vegetables in their backyard. The treadle pump can do most of the work of a motorized pump, but costs considerably less (Rs. 10,000).

Treadle pump can be used in combination with mini sprinkler and mini-inline dripper kits for irrigating about 500 sq. m plot. By interchanging the outlet of pump, one can irrigate more than 500 sq. m plot easily. As this pump is driven mainly by the operator's body weight and leg muscles, it can also provide a physical exercise for a healthy life.