



TOTAL IRRIGATION SOLUTION FOR SMALL AND MARGINAL FARMERS

**Bhinge Brothers, India**  
[www.ecofloindia.com](http://www.ecofloindia.com)

**“Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime.”**

**– Anne Isabelle**

- Every economy is based on agriculture
- **Water i.e proper irrigation is the backbone for any farming activity**
- Just teaching and introducing latest irrigation practices is enough to kick start growth in farming community.
- Simple Low-cost Do-it-yourself introductory package for every farmer
- Various package options - depending on budget

# Why Agriculture ?

- Agriculture forms the backbone of the country's food security
- Agriculture plays a vital role in India's economy – Major contribution to GDP of India
- About 70% of India's population is rural
- The main occupation of the rural population is mainly agriculture and related activities ( India in business, 2015)
- Agriculture sector's share in the Indian economy has declines since the past several years
- To meet the demands of the growing population and rising incomes, it is necessary to accelerate the agriculture sector by making it productive, diverse and sustainable (India GDP from agriculture, 2011-2016 data)

# Why Irrigation ?

- Farming mainly depends on availability of water
- Even today, out of the 195 m Ha of cultivated land in India, 63% is still rainfed and only 37% is irrigated
- That means, 63% land holders still depend on rainfall for agriculture (These people come into below poverty line)
- Hence, they are idle for other dry 8 months of the year
- It is necessary to introduce these people to the modern ways of irrigation with which they can cultivate even in the dry season and double their yields (World Bank, 2012)

# Here's Food for Scary Thought

Green Revolution? Think again. India is heading towards becoming a major agricultural importer after two failed monsoons. The country has started shopping around the globe for stuff it exported until last year. **Jayashree Bhosale** analyses:

## What's Happening?

-  Private traders say they will import wheat again this year
-  India's pulses imports are rising as demand is up while output is sluggish
-  India has started importing large amounts of corn after exporting it for years
-  In November, it imported soymeal, used as poultry feed. India was a big exporter
-  Now, another large shipment of soymeal has arrived from Ukraine

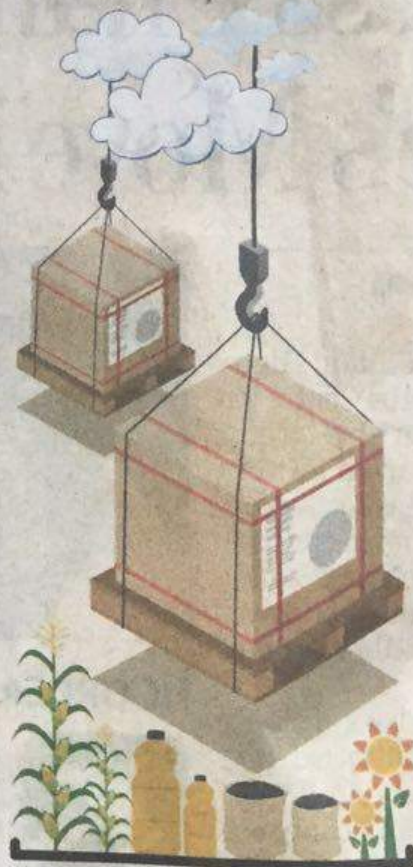
## Why Is It Happening?

-  Monsoon failed for two consecutive years
-  The intervening winter crop was severely damaged by hailstorms and unseasonal rain
-  Last fiscal, the post-monsoon season was exceptionally dry and warm
-  No new technological breakthrough after the 1960s' Green Revolution
-  THE PRICE OF MANY INDIAN GRAINS IS HIGHER THAN INTERNATIONAL RATES



## What Can be Done?

-  Ensure big improvement in productivity
-  Need to introduce modern irrigation practices
-  Another Green Revolution is badly needed
-  Hope for a good monsoon. Rains have never failed thrice in a row



# Why us?



- ★ Over **25 YEARS** EXPERIENCE in the Development Sector
- ★ **More than 10,000** SATISFIED Farmers in India and more than 5000 beneficiaries across the World
- ★ **Bulk Manufacturers** Of complete range of Irrigation systems, Kits and Manual Pumps

# Our Associations with NGOs

## International NGOs

- iDE (International Development Enterprise)
- Red Cross
- UN Funded Projects
- FAO (Food and Agriculture Organisation)
- USAID
- Winrock International
- NARI EU-ARD Project
- Relief Society Tigray (REST)
- ActionAid
- Total Land Care
- Practica Foundation

## Indian NGOs

- BIAF MITTRA
  - Pradan
  - Swades Foundation
  - IIT Powai
  - CARDS
  - SHARE
  - Foundation for Ecological Society
  - CSA (Center for Sustainable Agriculture)
  - RAIDCO Kerala Ltd.
  - Center for Experimental Earning
- And many more..

# Our Proposal

- **Target only remote villages needing poverty alleviation**
- Give them small irrigation kits just to cover a small part of their farm-an introduction
- Provide them with water reservoirs at the vicinity for irrigation
- Let them experience and get a feel of added revenue by farming with irrigation
- They themselves would come with resources to buy directly irrigation from open market in coming years.

# A Typical Package For marginal farmers with no electricity



Water storage



Pumping



Irrigation System

# Water Storage Solution

- **Stand – Alone Flexi tanks**
- 150Lit., 300Lit., 500Lit. and 1000Lit.

## ***Why Flexi tanks?***

- ✓ *Versatile , Flexible, Easy portability, Easy Distribution*
- ✓ *Cheaper than molded tanks*
- ✓ *Can be easily folded and transported and stored indoors – reducing a risk of stealing*
- ✓ *Expected life more than 3years*



# Water Storage Solution

- **Hanging Flexi tank**

- 200Lit.
- Cheapest flexi tank hanging between 2trees/pillars

- **Pondliners**

- High capacity water storage
- Made in UV stabilized HDPE Woven fabric
- Standard pondliner available from 10000L to 650000L capacity
- Minimum Life- 3years
- Central reservoir for a village or group of farmers



# Manual Pumping

## 1. Ecoflo Treadle Pump

- Weighs just 12kgs
- Discharge @5000Lph
- Pressure enough to run a sprinkler and Drip system

## 2. Ecoflo Hand Pump

- Weighs just 1kg
- Discharge @1200Lph
- Pressure enough to run a sprinkler and Drip system



Patented

# Ecoflo Treadle Pump

Delivery upto  
15mtrs



## *Why Ecoflo Treadle Pump?*

- ✓ *Simple stepping action*
- ✓ *Portable, can be easily carried on the back*
- ✓ *High discharge capacity of 5000Lph*
- ✓ *Practically Maintenance free*
- ✓ *No priming*

Suction from  
7mtrs

**Discharge = 5000 Lph**  
**Weight = 12kgs**

Transport upto  
0.5kms

# Ecoflo Hand Pump



Delivery upto  
14mtrs

Transport upto  
0.3kms



Suction from  
5mtrs

**Weight = 1kg ONLY**  
**Discharge = 1200 Lph**



## Why Ecoflo Hand Pump?

- ✓ Lightest Pump weighing just 1kg
- ✓ Can fill 200Lit. Tank in just 10mins
- ✓ Very portable
- ✓ Maintenance free
- ✓ No priming

# Solar Pumping

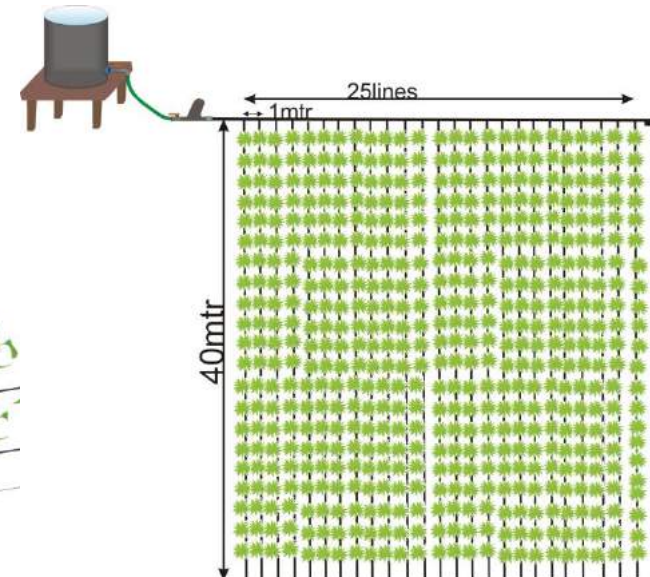
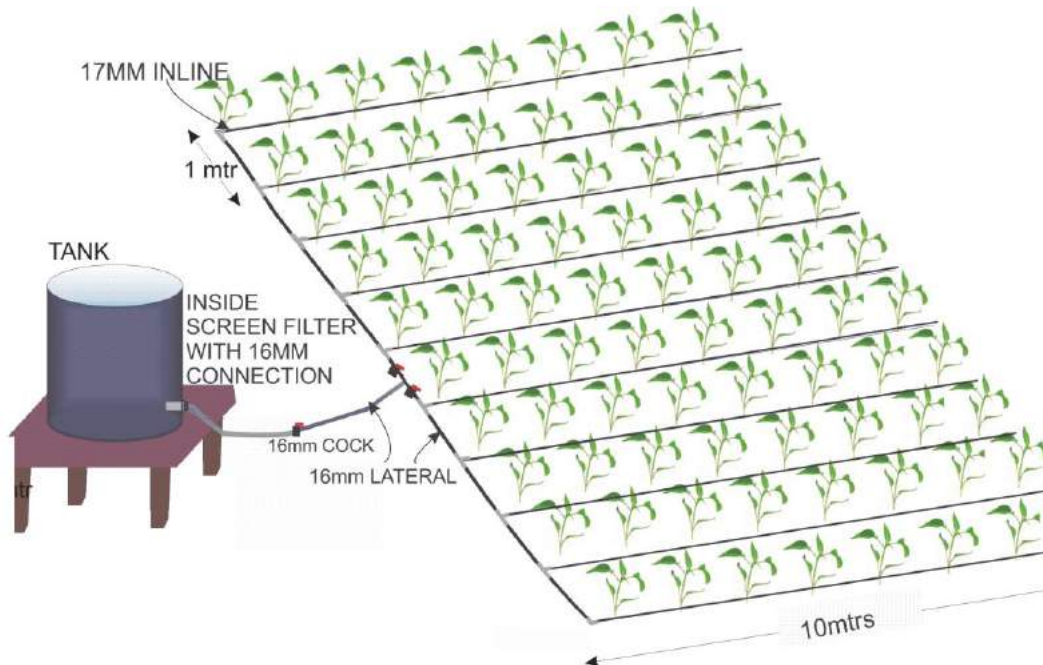
- Upto 20Hp pumps with Solar panels and Controller
- Used for transferring water to long distances for a village or group of farmers



For video: <https://www.youtube.com/watch?v=1in-9QYa9vY>

# Micro Irrigation Kits

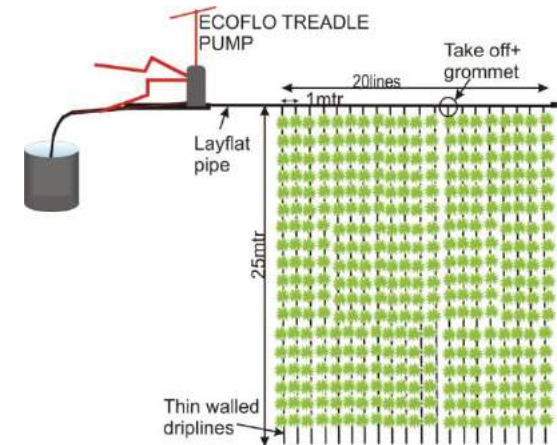
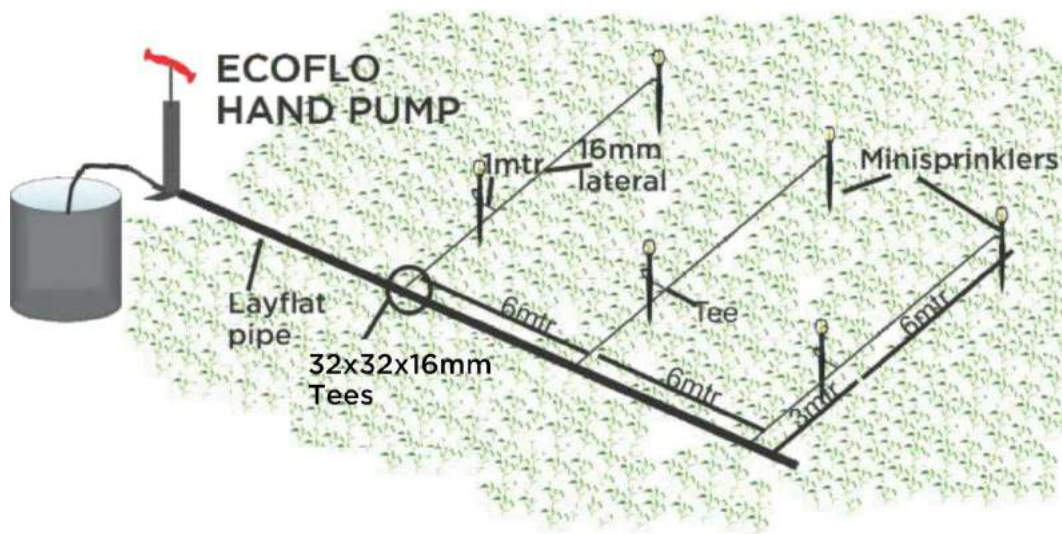
- **Gravity Irrigation Kits**
  - 100sq.mtrs Gravity Dripline Kit
  - 500sq.mtrs Gravity Dripline Kit
  - 1000sq.mtrs Gravity Dripline Kit



# Micro Irrigation Kits

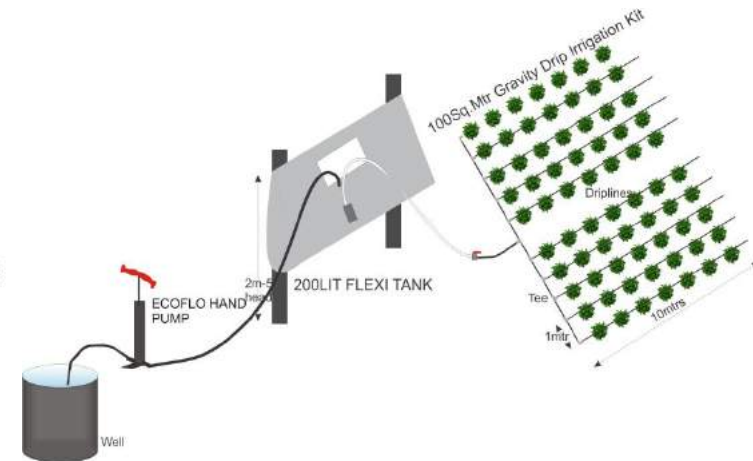
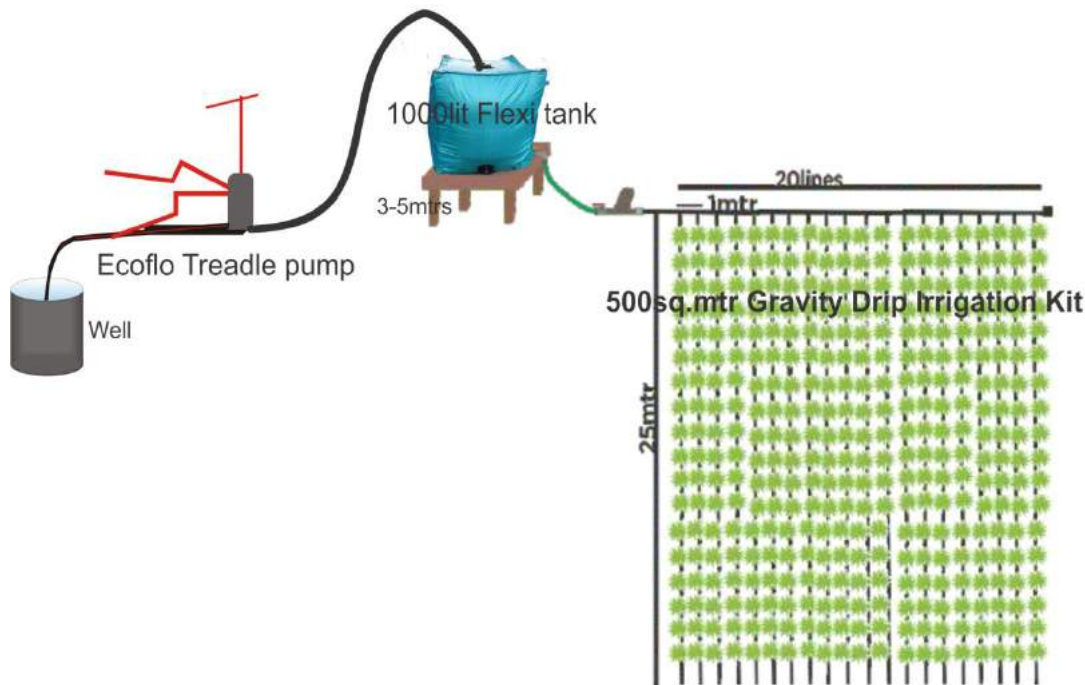
- **Ecoflo Pump Irrigation Kits**

- 300sq.mtrs Ecoflo Hand Pump & Treadle pump Sprinkler Kit
- 500sq.mtrs Ecoflo Treadle Pump Dripline Kit
- 1000sq.mtrs Ecoflo Treadle Pump Dripline Kit



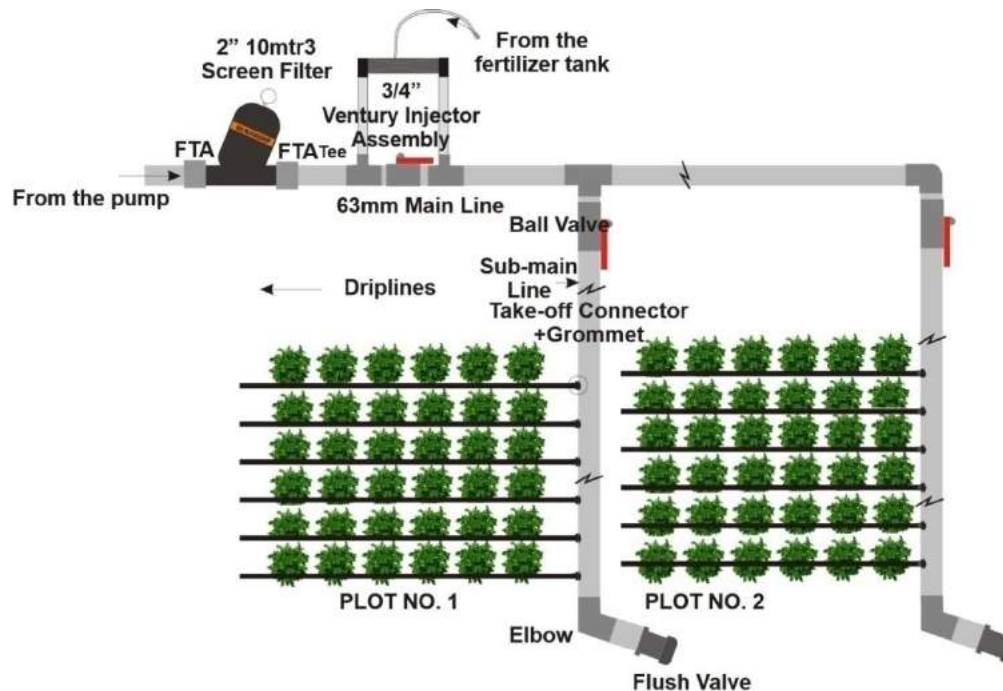
# Micro Irrigation Kits

- **Complete Irrigation Package**
  - Ecoflo Hand Pump + 200Lit. Hanging Flexi tank + 100sq.mtr Gravity Dripline Kit
  - Ecoflo Treadle Pump + 500Lit./1000Lit. Flexi tank + 500sq.mtr/1000sq.mtr Gravity Dripline Kit



# Micro Irrigation Kits

- **Standard Motored Kits from 0.5 to 2.5 acres**
  - Powered by motored pump
  - Do-it-yourself, comes with an instruction manual
  - Easy to install



Driplines



PVC Pipes

# Main Micro Irrigation Components

- **Water Sprinklers/Emitters**
  1. **Integrated Thin Walled Driplines**
  2. **Mini Sprinklers**
- **Filtration**
  - **Screen Filter, Disc Filter**
- **Ventury Injector**
- **Main and Submain Lines**
  - **PVC Pipes**
  - **PE Layflat Pipes**
- **PVC/PE Fittings**
- **Connectors – Joiners, Take-off, grommets, end connections, etc.**

# Integrated Thin-walled Driplines

- Available in all sizes



## *Why our Driplines?*

- ✓ *Our Driplines have the biggest and longest flowpath – Minimum clogging*
- ✓ *They are made from a special material mix which extends the life of our driplines*

**For Video:**

<https://www.youtube.com/watch?v=iPZzrcyw5j0>

## Difference between Our Driplines and Others

Other Driplines in the market	Our Driplines
<p>Thickness – 0.2 to 0.3mm wall thickness for non-ISI More than 0.7mm for ISI</p>	<p>Thickness – 0.2 to 0.9mm wall thickness</p>
<p>Guarantee – One season (1year) guarantee for 0.2mm thick driplines And they give a guarantee of 5years for the ISI ones.</p>	<p>Minimum 2years guarantee for the same 0.2mm thick driplines. Minimum proven life of 3years for 0.3mm thickness, 5years for 0.5mm thickness and more than 5years for 0.7mm thickness</p>
<p>Driplines are made in locally available LLDPE material</p>	<p>Driplines are made in a special mix of material, that increases the life of our driplines</p>
<p>Cost – For ISI Dripline in the market that offer subsidy, the cost ranges from Rs. 8 to 10 per meter depending on the size</p>	<p>Cost – Bhavani Dripline ranges from Rs. 2.6 to 7 per meter depending on the size</p>

# Mini Sprinkler

- **Minisprinkler systems** are used where complete area is to be covered perfectly without causing any harm to the crop/plants
- Discharge of 450lph upto 6.5mtr range



**For video:**

<https://www.youtube.com/watch?v=wffhLvnB8dM>



# Filteration

## Screen and Disc Filters



- Screen Filters  
– 16mm, 3/4", 1", 1.5", 2", 2.5", 3"
- Disc Filters  
- 1.5", 2.5", 3"

### *Why our Filters?*

- ✓ Water flows from Inside to Outside
- ✓ Easy to clean
- ✓ Air cum Flush valve
- ✓ Easy Flushing
- ✓ 2 filters can be attached in parallel for Double Filteration with enhanced flushing mechanism

**For Video:**

[https://youtu.be/\\_inQEb8GMPg](https://youtu.be/_inQEb8GMPg)

# Ventury Injectors

- Easiest way to give acid treatment, fertigation.
- Available in sizes
- Available with complete assembly



## *Why 2" Turbo Ventury Injector ?*

- ✓ Latest
- ✓ 1350lph suction
- ✓ At a low differential pressure .



# Main and Submain Lines

- **PVC Pipes**

- Rigid Pipes

- **PE Layflat Pipes**

- Available in 32 and 50mm

- Flexible flat pipes

- With leak-proof connections

- Used for our standard kits upto 1000sq.mtrs





# A Case Study

- **Sahyadri Farmers Cooperatives** is the largest farmers cooperating with more than 3000 marginal farmers growing fruits and vegetables
- They are the largest exporter of grapes and vegetables from India
- These standard kits are being distributed in bulk amongst their farmers

# A Case Study

- In 2005 a remote village called Vaitagwadi in Igatpuri was given our few treadle pumps along with basic drip irrigation system by renowned NGO - BAIF Mittra
- One of the poor farmer wrote a post card to the then President of India Dr.A.P.J.Abdul Kalam to please come and visit them to see and replicate this model across India for rural upliftment
- Dr. Abdul Kalam actually visited-saw and was impressed and changed the name of the village to Aashakiranwadi
- The story does not end here - the same villagers came n bought more similar sets with their own resources
- And.... Just a few months back the Sarpanch of this village comes in his car to buy another set to help uplift another remote village

# A Case Study



TV Clip of Dr. Abdul Kalam's Aashakiranwadi visit



# A Recent Case Study

- Last year a generous man from Mumbai Mr. Amir Gilani came to a very poor but known village-Mokhada near Jawahar. He introduced a similar model consisting of low cost water reservoir being filled from a nearby lake and basic treadle pump irrigation complete kits
- This year ongoing the villagers are coming in groups every week to buy drip irrigation systems for their farms directly from our factory
- This clearly implies their understanding of profits from such model
- This village will no longer be called a poor village just within a year or so.....

# Awards

- Plasticon Award-2005, PLASTINDIA FOUNDATION
- Innovation for India awards 2008  
Winner in business for social sector, MARICO INNOVATION FOUNDATION

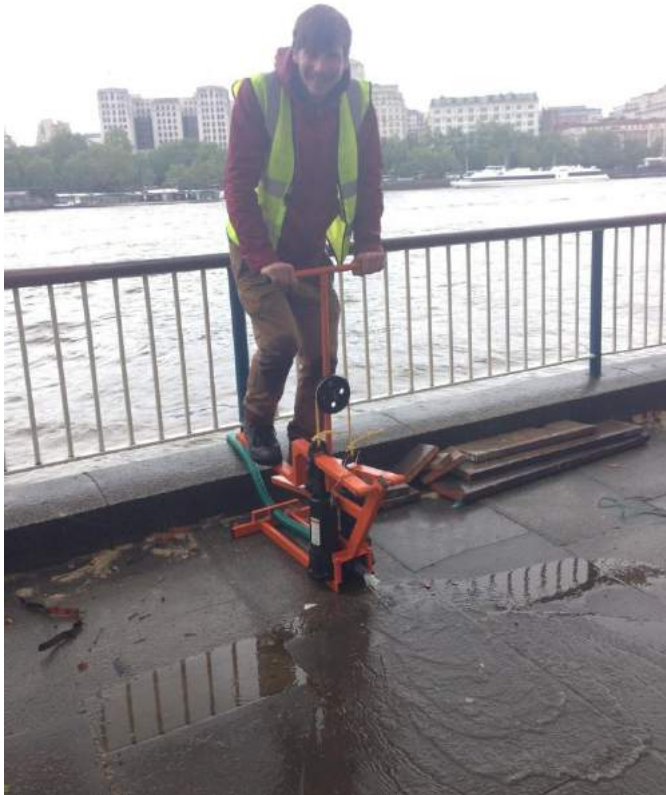


# Achievements



Mr. Bill Clinton himself endorsing the pump for a fund raising event for iDE ( International Development Enterprises) in USA

# Presence of our Treadle Pump



- On display under the World famous London Eye, Southbank, U.K



- Installed in New Jersey, U.S.A as an outdoor display

# Manufacturing Units in Nasik



# Plastic Injection Moulding Machines



# Plastic Injection Moulding Machines For Large Components



# Plastic Extrusion Line



# High Speed Plastic Extrusion line for Driplines



# Well Equipped Tool-room



# Assembly Units



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# Thank You

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Bhinge Brothers,  
Nasik (India)

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