

# A SOLUTION FOR CLEAN DRINKING WATER FOR THE COMMUNITY



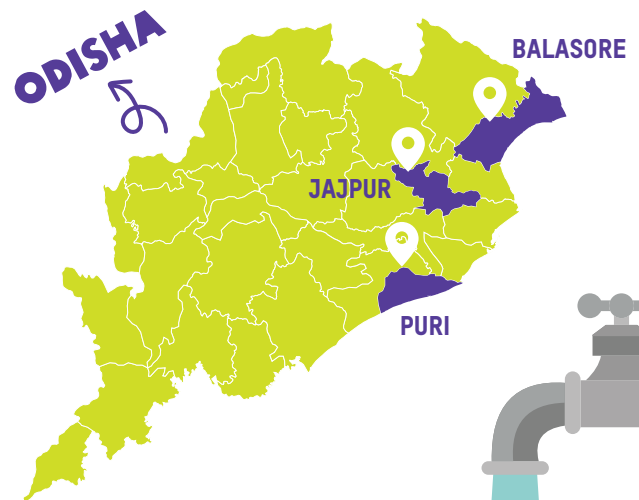
“To provide every rural person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis. This basic requirement should meet minimum water quality standards and be readily and conveniently accessible at all times and in all situations”

— National Policy Framework, 2012

Access to safe drinking water is enshrined in our Constitution (Article 21), Sustainable Development Goals (Goal 6), and the United Nations (General Resolution 64/292).

## OXFAM INDIA AND LIVPURE FOUNDATION ARE SETTING UP WATER FILTRATION UNITS IN 48 ACUTE FLOOD & CYCLONE PRONE VILLAGES IN THREE DISTRICTS OF COASTAL ODISHA.

- ✓ The water in these villages have high iron contamination and high TDS. All habitations are inhabited mostly by poor people and are located in high coastal and flood prone areas of Odisha
- ✓ The water filtration units filters iron contaminants, bacteria and improves the quality of water.
- ✓ The technology is simple, efficient, affordable, acceptable, accessible and disaster-risk resilient.
- ✓ A community-ownership model where the users are involved from the beginning and take up the Operation & Management roles; and good coordination of community members with Panchayats and Service Providers (RWSS).
- ✓ A system that addresses various forms of discrimination in the context of rural Odisha.



### COMMUNITY FILTERS ENSURE THE 5 ESSENTIAL COMPONENTS FOR SAFE, SUSTAINABLE, EQUITABLE AND DIGNIFIED ACCESS TO DRINKING WATER

#### 1 QUALITY

Safe for consumption; hygienic and safe to use

#### 2 AVAILABILITY

Enough to meet everyone's requirements

#### 3 ACCESSIBILITY

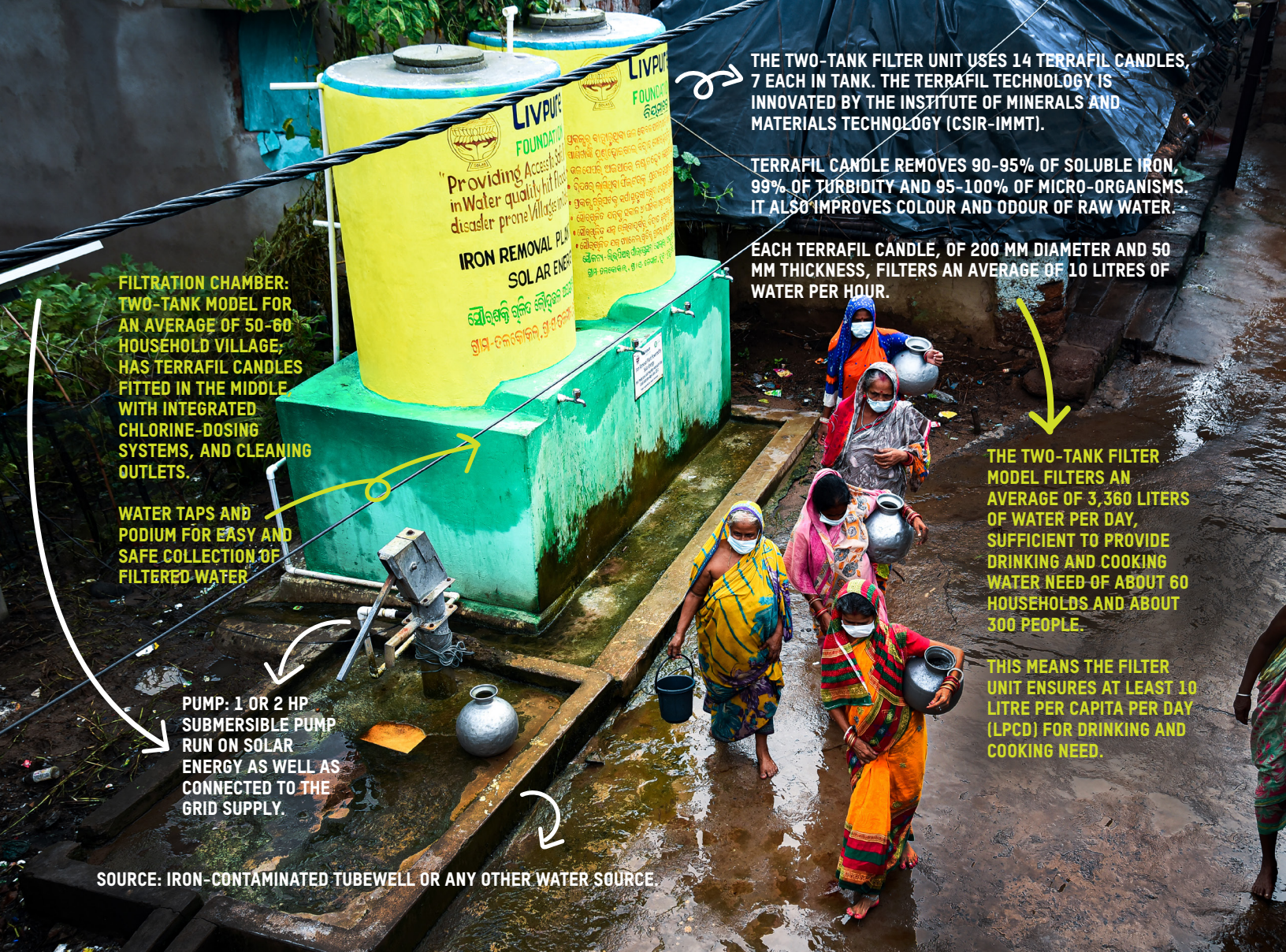
Within the vicinity and without discrimination

#### 4 AFFORDABILITY

Without compromising on quality and essential necessities guaranteed by human rights

#### 5 ACCEPTABILITY

Culturally acceptable and gender-specific to ensure privacy and dignity



THE TWO-TANK FILTER UNIT USES 14 TERRAFIL CANDLES, 7 EACH IN TANK. THE TERRAFIL TECHNOLOGY IS INNOVATED BY THE INSTITUTE OF MINERALS AND MATERIALS TECHNOLOGY (CSIR-IMMT).

TERRAFIL CANDLE REMOVES 90-95% OF SOLUBLE IRON, 99% OF TURBIDITY AND 95-100% OF MICRO-ORGANISMS. IT ALSO IMPROVES COLOUR AND ODOUR OF RAW WATER.

EACH TERRAFIL CANDLE, OF 200 MM DIAMETER AND 50 MM THICKNESS, FILTERS AN AVERAGE OF 10 LITRES OF WATER PER HOUR.

THE TWO-TANK FILTER MODEL FILTERS AN AVERAGE OF 3,360 LITERS OF WATER PER DAY, SUFFICIENT TO PROVIDE DRINKING AND COOKING WATER NEED OF ABOUT 60 HOUSEHOLDS AND ABOUT 300 PEOPLE.

THIS MEANS THE FILTER UNIT ENSURES AT LEAST 10 LITRE PER CAPITA PER DAY (LPCD) FOR DRINKING AND COOKING NEED.

FILTRATION CHAMBER: TWO-TANK MODEL FOR AN AVERAGE OF 50-60 HOUSEHOLD VILLAGE, HAS TERRAFIL CANDLES FITTED IN THE MIDDLE WITH INTEGRATED CHLORINE-DOSING SYSTEMS, AND CLEANING OUTLETS.

WATER TAPS AND PODIUM FOR EASY AND SAFE COLLECTION OF FILTERED WATER

PUMP: 1 OR 2 HP SUBMERSIBLE PUMP RUN ON SOLAR ENERGY AS WELL AS CONNECTED TO THE GRID SUPPLY.

SOURCE: IRON-CONTAMINATED TUBEWELL OR ANY OTHER WATER SOURCE

## LITTLE COST, BIG BENEFIT

Rs 240,000 = Average cost of building one community filter that provides 3300 litres of safe water per day

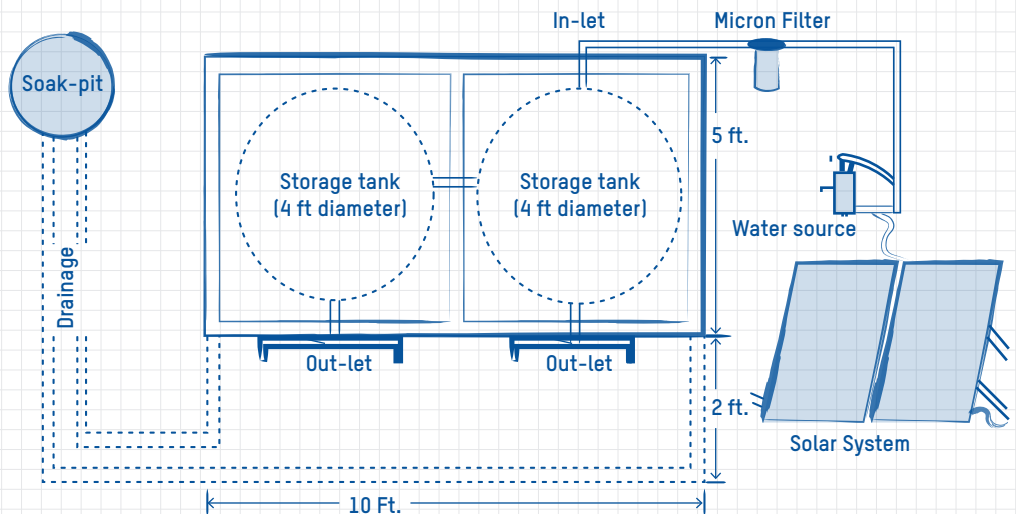
Rs. 69 = Total cost of the filter/litre of water filtered in a day

Rs. 4000 = Cost of the filter/ no. of user family

Rs. 0.005 = The Operation and Maintenance (O&M) cost for one litre of safe water

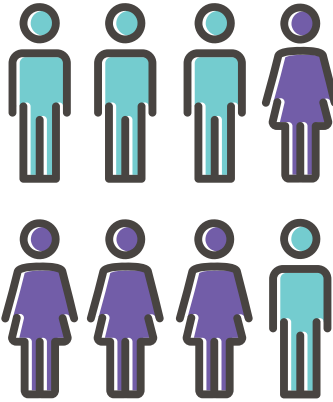
\*The system is expected to last for at least 10 years

## BLUEPRINT



# COMMUNITY OWNERSHIP

Villages have **FORMED COMMITTEES** for day-to-day operations.



At least **50%** of committee members are **WOMEN**.

With training, orientation and handholding support, village communities have **TAKEN UP TOTAL O&M** of the village filter units.

Despite Cyclone Fani in 2019 and COVID-19, the user households have already contributed over Rs 500,000 in the last 2 years. After Operation & Maintenance (O&M) expenditure, the 23 village committees still have a balance of over Rs 200,000 (and the balance is growing!)

## A REPORT CARD

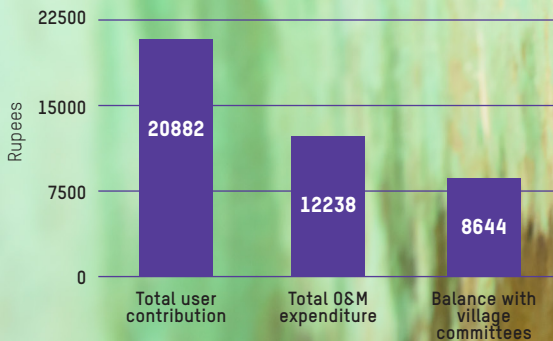
- 23 VILLAGES (INCLUDING ONE SALINITY REMOVAL FILTER)
- 1,537 CONTRIBUTING USER HOUSEHOLDS
- USE STARTED:
  - FIRST PHASE IN 10 VILLAGES: FEBRUARY 2018
  - SECOND PHASE IN 13 VILLAGES: JULY 2019
- USER CONTRIBUTION, EXPENDITURE ON O&M AND BALANCE WITH VILLAGE COMMITTEES

TOTAL USER CONTRIBUTION BY USER HOUSEHOLDS IN 24 VILLAGES	RS. 5,01,160
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TOTAL O&M EXPENDITURE BY VILLAGE COMMITTEES	RS. 2,93,710
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BALANCE WITH 24 VILLAGE COMMITTEES	RS. 2,07,450
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### AVERAGE VILLAGE CONTRIBUTION, EXPENDITURE AND BALANCE (UP TO MAY 2021)



# IT HAS CHANGED LIVES...

We are proud of the fact that neighbouring villagers procured water from this filter when their water sources became defunct after cyclone FANI destroyed almost everything in May 2019

- Sajani Behera, Secretary of Jal Parimal Committee (WASH), Hariharapatana village, Puri

Once while traveling through Kanas block to attend a meeting I saw a community filter. The community there was happy and that appealed to me. I requested Oxfam India and now we have two such filters in my Panchayat. Our Panchayat is planning to install similar filters in six other villages with high iron contamination and salinity problems. It makes me proud that community members are managing the filters with their own contribution.

-Sabita Mahapatra, Sarpanch, Talamal GP

Until a few years ago when our relatives from cities and other villages visited us, they brought their own water. They said our water was salty and bad for health. After the plant was set up, the situation changed. They are happy drinking water with us now.

— Alaka Swain of Kaudikhani village, Puri

Earlier parents complained of their children suffering from stomach pain. We used to spend hours on collection of water then boiling and storing in bottles for children. I am happy that we no longer have to depend on tube wells and get clean drinking water right out of a tap.

— Nibedita Mohapatra, Anganwadi Worker, Talakokala Brahmanasahi, Puri

Since the IRP provides clean drinking water, villagers are spending, time, effort and money to keep the surrounding and tank clean. We collect Rs 30 every month from each household to spend on cleaning, bleaching and replacing the candle. We clean the tank twice a week.

— Mrutyunjay Behera, ward member, Karamala Beherasahi village, Puri

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