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Case study: Using a systems design model to bring clean drinking water to rural and slum communities in India

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Case Study: Using a Systems Design Model to Bring Clean Drinking Water to Rural and Slum Communities in India

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600,000 children die EVERY YEAR from diarrhea or pneumonia from unclean water

Examples of water cleaning solutions available
Affordable?
FIT with REALITIES and OPPORTUNITIES?
Modelled to reach SCALE?
Little or NO local economic impact

product

FAIR labour practices?

payment
Sustainable?

- cultural
- financial
- social
- environmental
Project supported by:

Grand Challenges Canada
Grands Défis Canada
Pilot Community
South Goa
Connecting health, water, sanitation, hygiene, & economics
WOMEN & WATER interconnected
WATER & WASTE interconnected
WATER storage is KEY
Especially
Drinking WATER
Especially
Drinking

INTUITIVE
Practices
Sustainable solution
CleanCube PROCESS

1. Participatory Design
2. Prototyping/Evaluation
3. Cottage Scale Production
4. Clean Water
5. Economic Opportunity
6. Healthy Community
CleanCube prototype
Solution Ecosystem

- Long-term adoption
- Scalable
- Community ownership/responsibility
- Self-sustaining
- Systemic change
- Broader understanding
- Local production
- Participatory design
- Local distribution
- Education/training
- CleanCube Solution Ecosystem
CO-DESIGNING with the community
IMAGINING the needed infrastructure
EXPERIENCING
the power of cooperation
CREATING a shared message
MEMBER
Zuari Nagar Evergreen Association

CATALYST for community action
PROVEN Models
SELF HELP Groups (SHGs)
SMALL batch PRODUCTION
HEALTH & PRODUCTION TRAINING
Open bag

1 छोटी चम्फ = 1 ली
1 tsp = 1 ltr

1 मिनट
1 minute

1 घंटा
1 hour

Clean water ready
TIME & EFFICIENCY
A woman in production earns Rs 4000 for 40 hours/month, a contribution of 30-40% to her household income.
= 1L of clean water = Rs 1
or about $0.02 CAD

= 1 week of clean water for family of five
= Rs 50 or about $1 CAD
SHORT & LONG TERM IMPACT
INTERSECTION of the SACRED & MUNDANE
COMMUNITY-BASED EDUCATION
storytelling, science, magic,
music & dance
a powerful medium tuned into local realities
cut through the media noise
ALTERNATIVE DISTRIBUTION MODEL
IN HOME AMBASSADOR KIT

स्वच्छ क्यूब CleanCube
स्वच्छ जल शुद्ध जीवन Clean Water Pure Life
VARUNA

सब पानी एक है।
ALL WATER IS ONE.
जल
WATER

शुद्ध जल
PURITY WATER

अशुद्ध जल
IMPURE WATER

अद्भुत अशुद्धता
INVISIBLE IMPURITIES

माइक्रोस्कोप
MICROSCOPE
Sneha, Priya, Swati, Roshan... Hurry! Let’s go to the tap to fill water.

As she throws the empty packet into the sewer, EYES APPEAR.

They continue to walk towards the community tap. Sneha is reminded of a conversation she had with her father earlier that day.

Sorry everyone! This year we will not be able to have sugarcane that uncle sends us every year. Do you know why? Father was telling me how the sugarcane fields in our village have dried up due to no rain.
Feeling sad, the kids walk ahead and see a ball rolling into a sewer.
With cupped hands, Sudha begins to drink water. EYES APPEAR.

The children reach the community tap from where they fill water everyday.

Suddenly, a figure starts to appear around the eyes. The kids look at each other in excitement.
Did you know? Earth is made of 71 percent water. Even the human body is made of 78 percent water. Yours too!

All of you like to play in the rain... don't you?
The same rainwater fills up the lakes, rivers and oceans.
Trees and flowers, birds and animals, bees and butterflies all drink the same water, too.
सुधा, दीवार पर आया है कि तुम पानी क्यों रखते हो और भरोसे करते हो कि इस बारे में जानते हो क्योंकि इस पानी का उपयोग भी करते हो।

Sudha, did you know that this is the same water that comes from the taps from which you drink so well?

जोनी पानी नहीं और आसानों से बन जाता है, उसे बाधित बालकों में इतना करने का कोई दौरा नहीं होता।

Whatever is left in the rivers and lakes, I collect back into the clouds to give you more rain.

पानी मछली ही दिखाई है। अगर पानी को मछली के लिए एक रोहत दिखा है, तो बांध पर पानी पर हलका पानी नहीं करता तो मछली नहीं खुल सकती है। अगर तुम स्तन से काठ नहीं है कि पानी को जान लूटने की तैयारी करता है, तो यह तुम्हारा समय नहीं रखता।

Water is sacred.
I have given people the gift of water, but no one is taking care of it. Mother takes care of you, did you ever think who takes care of water? Water cannot take care of itself!
Scalable
Thinking SMALL to SCALE BIG

Small is Beautiful
A Study of Economics as if People Mattered

Building Social Business
The New Kind of Capitalism that Serves Humanity's Most Pressing Needs

Image Credit: Amazon.com
HOLISTIC approach
FIT
a solution reflecting local REALITIES
an approach to other BIG CHALLENGES
Solution Ecosystem

- Long-term adoption
- Scalable
- Community ownership/responsibility
- Self-sustaining
- Systemic change
- Broader understanding
- Local production
- Participatory design
- Local distribution
- Education/training
- CleanCube Solution Ecosystem
NEXT STEPS
continued testing
prototyping
replicating
preparing for market
CleanCube

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