

AFFORDABLE HOUSING II

PBL SA MUMBAI CASE



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Problem Statement #0

“Affordable Housing for Slum Dwellers in Mumbai”



Simple (Focused)
Strong Point: Seriousness
(comfort zone)

Weak Point: Nervousness

Movie: - Don't like more

~~Interests~~ - Somewhat is
Pet Revers repeated again &

Weekend: - Go around

IIT Bombay.

Hate:-

- Traffic mess







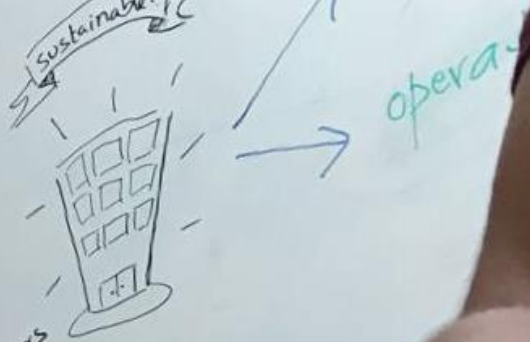




Issues listed
→ Discussion wasn't conclusive
→ Literature survey
→ Info Classification

↓
The Facility be
able after 10 years

→ Find out
by SA
into



Problem Statement #1

“Financial Sustainability of Operating & Maintaining Pragati Building
After the 1st Ten Years”



CHUTalks Lent Term- 2019

Treasure hunt for energy sustainability in poverty

Empirical evidence from slum rehabilitation in Mumbai, India

Ramit Debnath

 UNIVERSITY OF CAMBRIDGE

 CHURCHILL COLLEGE CAMBRIDGE

 GATES Cambridge





CHU talks





LIFESTYLE

SHOP

THE LAKE REVIVERS COLLECTIVE

VIDEOS

PARTNERS

CAREERS

IMPACT

LEDE

RAIN WATER HARVESTING

SOLAR

WASTE MANAGEMENT

Mumbai Society Harvests Upto 13K Litres Rainwater/Day, Saves Lakhs Using Solar Power

In 2017, the society exported surplus solar-produced electricity to a power distributing company and saved a whopping Rs 2.6 lakh. Not only that, it also converts 900 Kgs of waste into compost every month!

by **Gopi Karelia**

August 23, 2019, 4:39 pm

For residents of Bhoomi Arkade, a 19-storey-high rise in Kandivali East area of **Mumbai**, every season is an opportunity to accomplish their eco-friendly goals. Solar panels harness the sun's energy during summers, spring is a time plant more and monsoons mean water conservation.



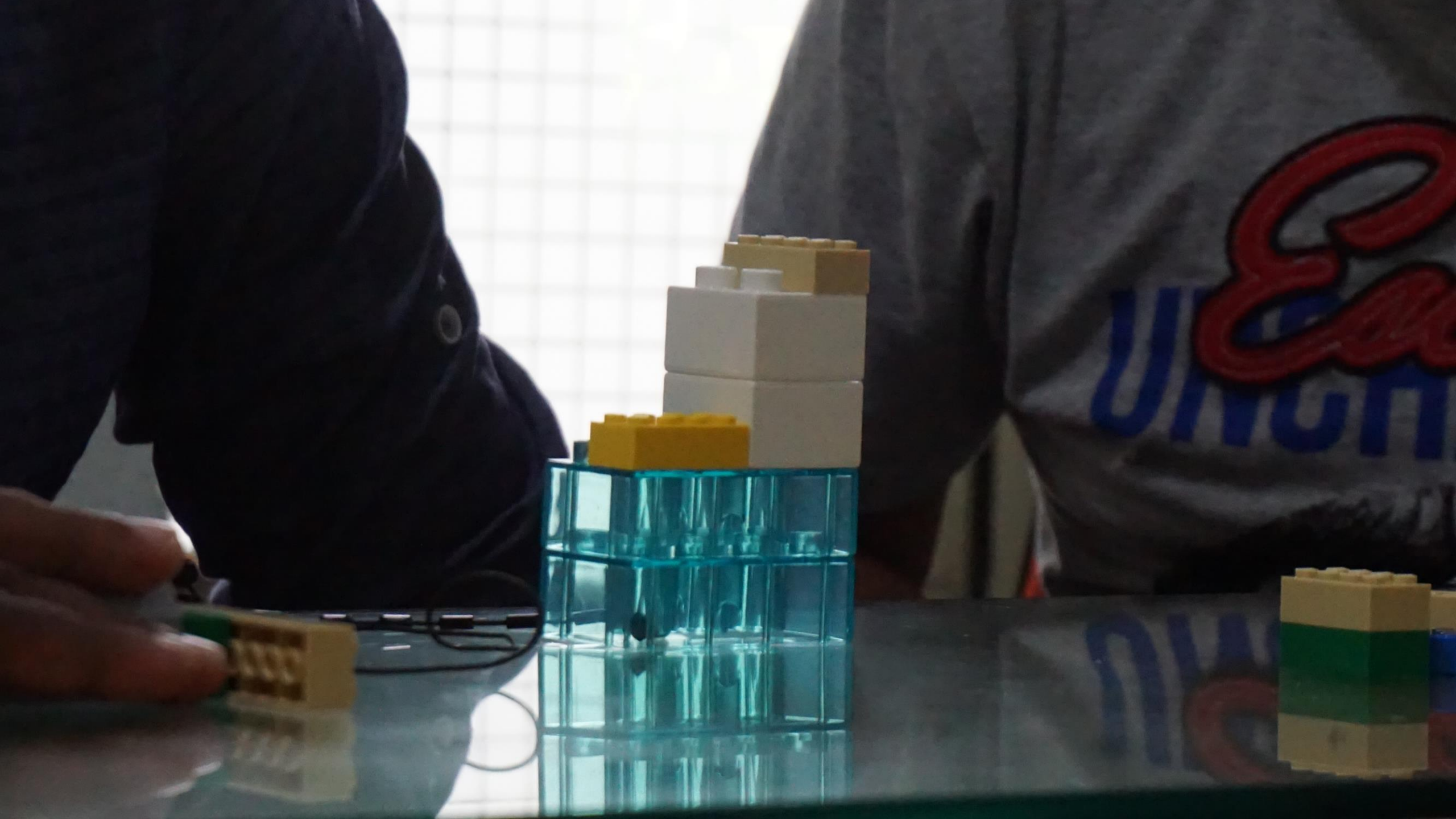
Problem Statement #2

“Cost-effective and Energy Saving Model for Operation & Maintenance
of Pragati Building”





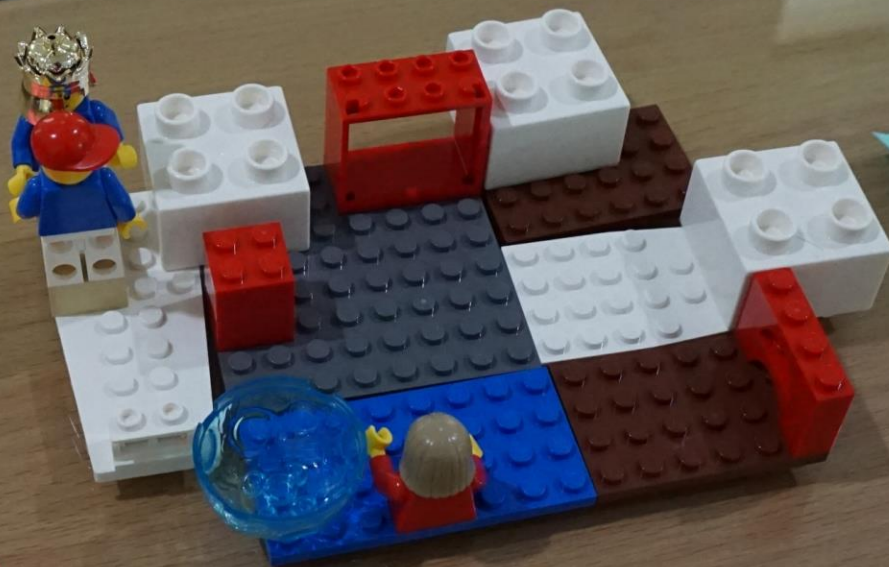




* How to spatially arrange it

* When not in use how to make the space operational

* Who will be operating the machines / maintain



* Good method to increase interaction

* Families can get familiar to each other



Interactivity
Children's museum
2000-2001

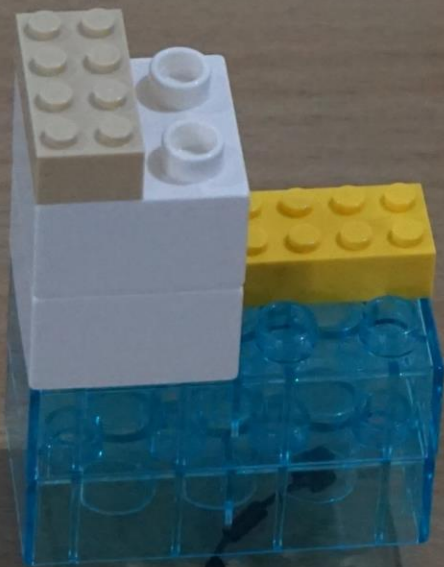
John Smith - I am
harvesting from
as good as dead

the
11/2

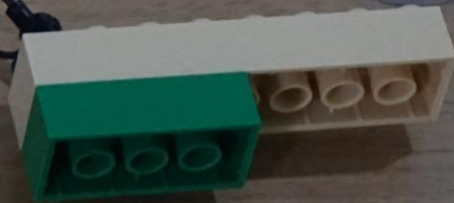
systems
thinking

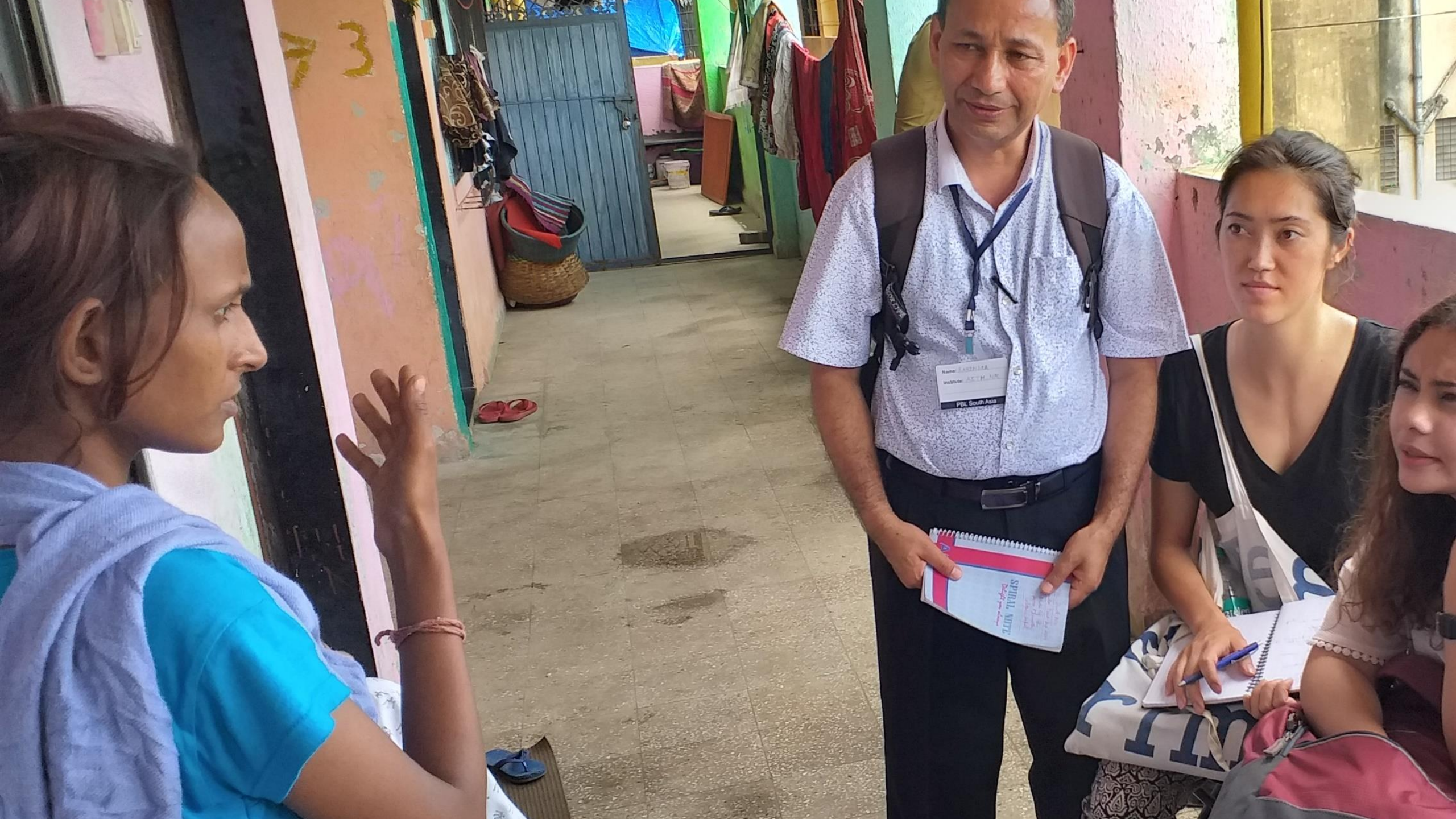
separate waste
at source

Biogas makes
a lot of sense



How to implement
in existing building?







Homeownership

Raani

Natwarparakh
slum

- 35 Yrs old, Hindu
- Living in V. settlement for nearly 2 years
- 5 members, 2 sons, 1 husband & daughter
- she is from outside Mumbai

→ not working, husband → autoriksha driver

→ Electricity cost ₹ 2000

→ Family salary: 6000/month
other family members
→ making local foods like bhajia & selling it sometimes.

→ Education: - High School

→ Maintenance cost: - 500/month

What she likes

- Happy with the house/renovated in their own
- Enough water supply facilities
- Good waste management system (collection)
- Community group & is functional

~~Ma.~~

→ more space in balcony

What she doesn't like

- Unhygienic surrounding
- Garbage management
- Less social interaction
- People in the upstairs throwing garbage down & making surrounding unhygienic.
- Expensive electricity



Non-owner

Aalina (Muslim) Natwarparakh
slum

25 years old, Muslim
Has lived in house for 3 years
Living on rent: 4000/month + electricity
3 kids, 1 husband

She's from UP

Not working, husband is autoriksha driver.

~~was in school~~ until 10th grade

What do they like?

- Affordable rent
- Living with family?

What does she not like?

- Congested, small space
- No social life
- Waste management → garbage thrown out ~~at~~ next to building
- Violence & other safety issues
- Hygiene & dirty environment
- Very dark (not enough sunlight)
- No common area/recreational space

* Don't use washing machine, some of them hang w/m & use them.



ATMA RAM SAHAY MARG, ASHOK NAGAR,
KANDIVALI (EAST), MUMBAI - 400 101.







NET METER

SOLAR METER



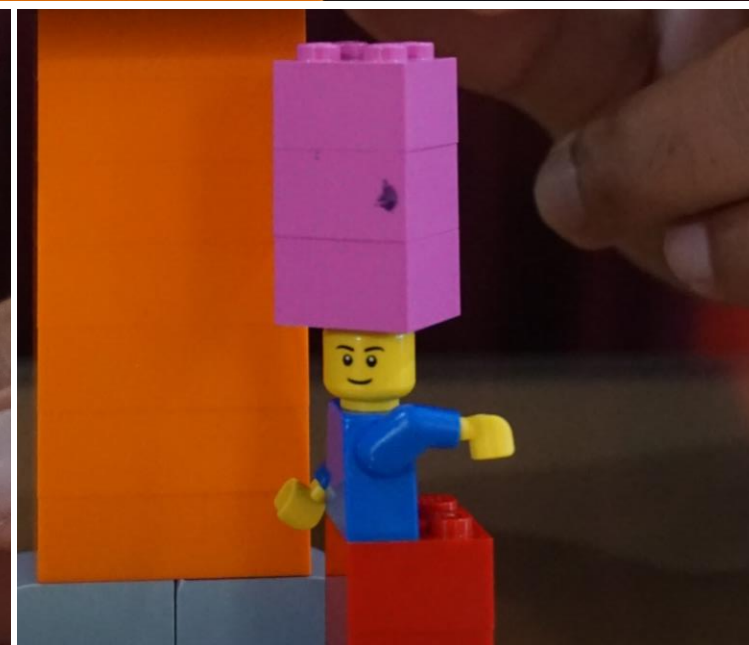
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Problem Statement #3

“Raani Wants a Clean and Hygienic Surrounding With More Opportunities for Social Interaction and Wishes to Have Affordable Electricity.”

“Our Solution Should Provide Raani With Affordable Electricity Which Also Facilitates Improved Social Interactions and Clean Hygienic Surroundings”





Special Thanks to..

- **Abishek Singh** – Local Facilitation
- **Natwar parekh compound residents** - interviews
- **L&T Realty** – Insight & background information
- **Bhoomi Arkade** – Tour & Detailed information
- **PBL team** – Bringing all of us together & sharing knowledge
- **IIT Bombay** – Local host



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