

Case Study Project

Design Thinking & Innovation
Case Study

Section: C7, Week 7



D'source Project



Open Design School



MoE's Innovation Cell



**THINK!
DESIGN**

Design Thinking & Innovation (DT&I)

Section: C7
Week 7



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Design Thinking & Innovation (DT&I)

Prof. Ravi Poovaiah
IDC School of Design, IIT Bombay



DT&I Case Study

C7 **Case Study Project:**
Sustainable Housing Society +
Coffee, Tea and Spice Stories
Module C7:

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C7.1

Case Study Sustainable Housing Society

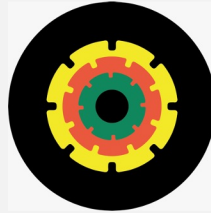
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DT&I Case Study Content:



DT&I Process (20%)

- > Research
- > Analysis
- > Ideation
- > Prototyping
- > Recommendations



DT&I Tools (20%)

- > Brain-Storming
- > Mind-Mapping
- > Interviews
- > Activity Mappings
- > Causal Mappings
- > Prototyping



DT&I Project (50%)

- > Secondary Research
- > Primary Research
- > Use of Tools
- > Prototyping
- > Recommendations



DT&I Case Study (10%)

- > Case Study Project:
Sustainable Housing Society
(System + Service Design)



DEP302 System Design Project

Sustainable Housing

Team Padma

Anagha Aneesh
18U130004

Drishti Das
18U130013

Prita Raut
18U130024

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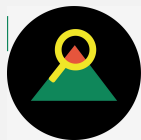


Initial Brainstorm Areas

We compiled a
list of 39 topics
including the
15 suggested
topics in the
brief.



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Final Shortlisted Topics

The final Seven
Topics which were
further
categorised into
four.

Emergency
Services
(102,108,
etc)

Sustainable
Home
Systems

Rainwater
harvesting
systems

Household
Waste
Management
System

Availability
of parking
space

Signage and
Wayfinding
Systems for
India

Libraries

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Contents at a Glance

Aim: Making Housing Complexes more Sustainable

Introduction - Understanding the System

Primary and Secondary Research

Causal Loop Diagrams

Problem Area and Sub areas

User Groups

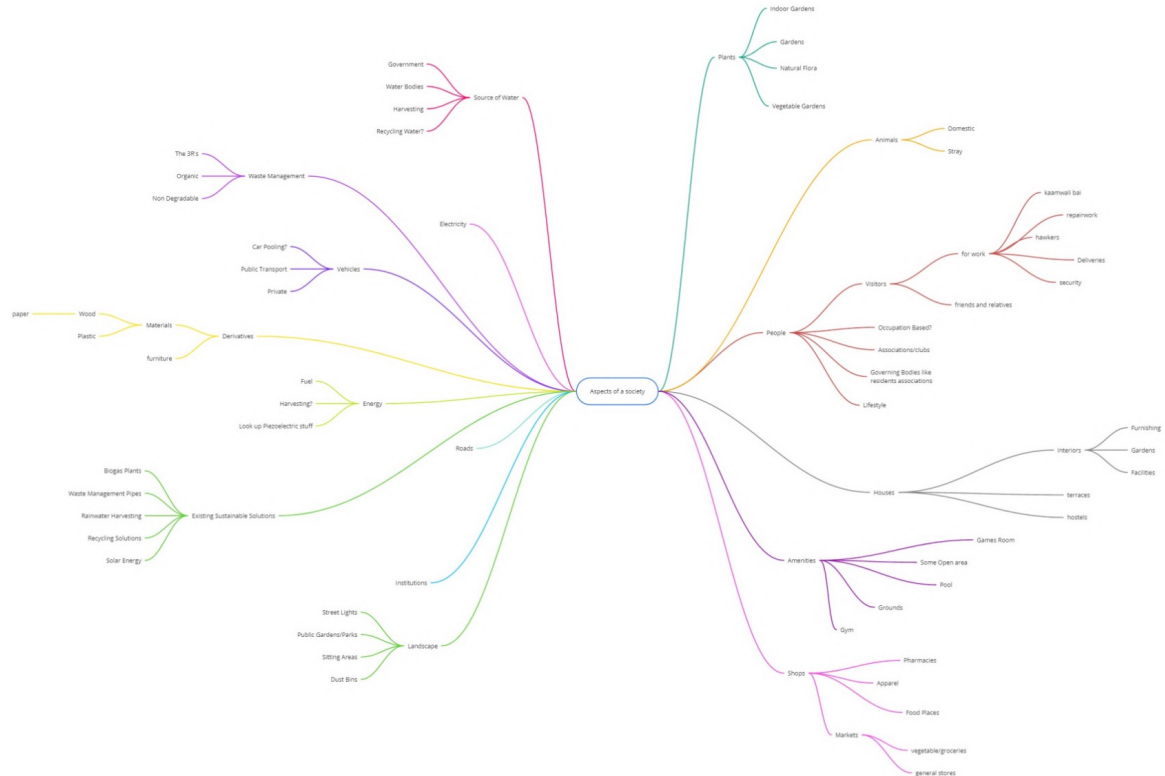
Final Solution

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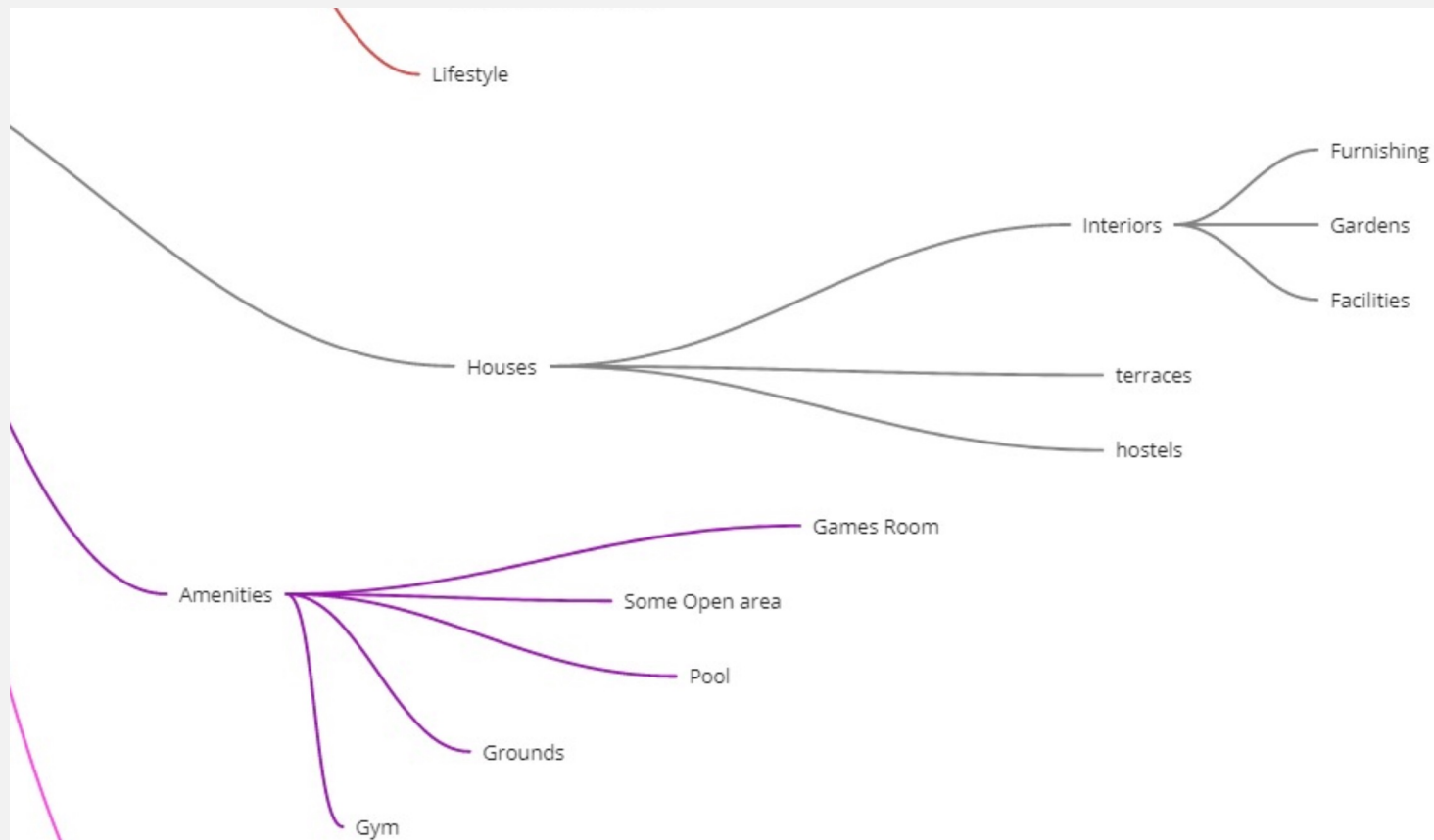
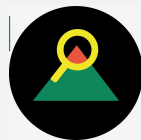


Components of a Housing complex

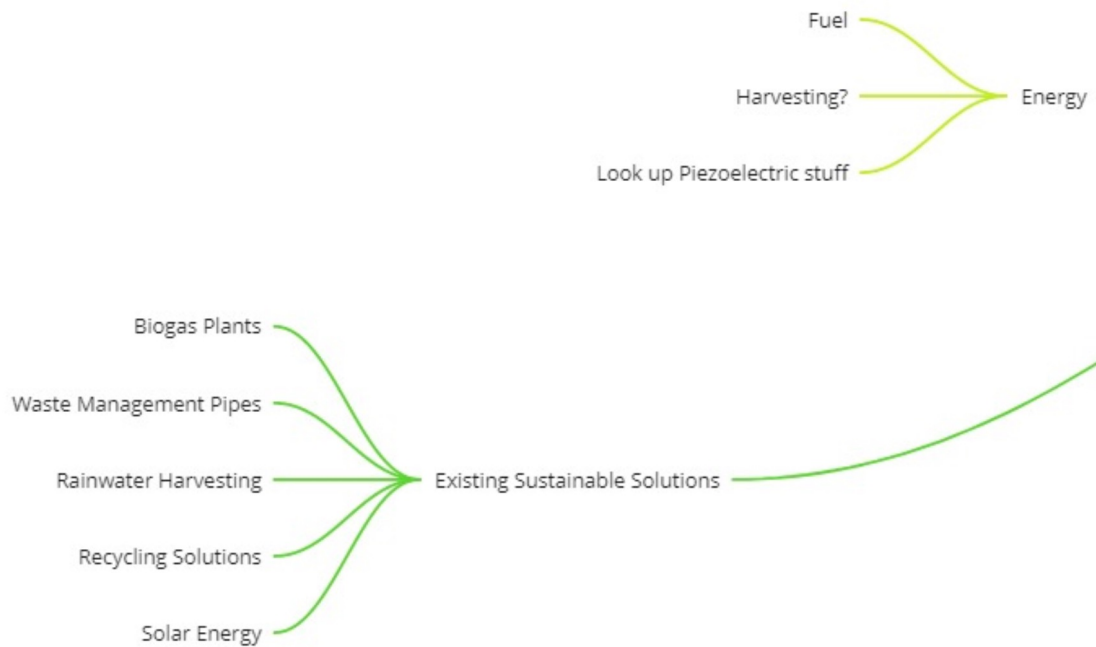
Mapped out all the
components of a
society in a broad
sense for further in
depth analysis



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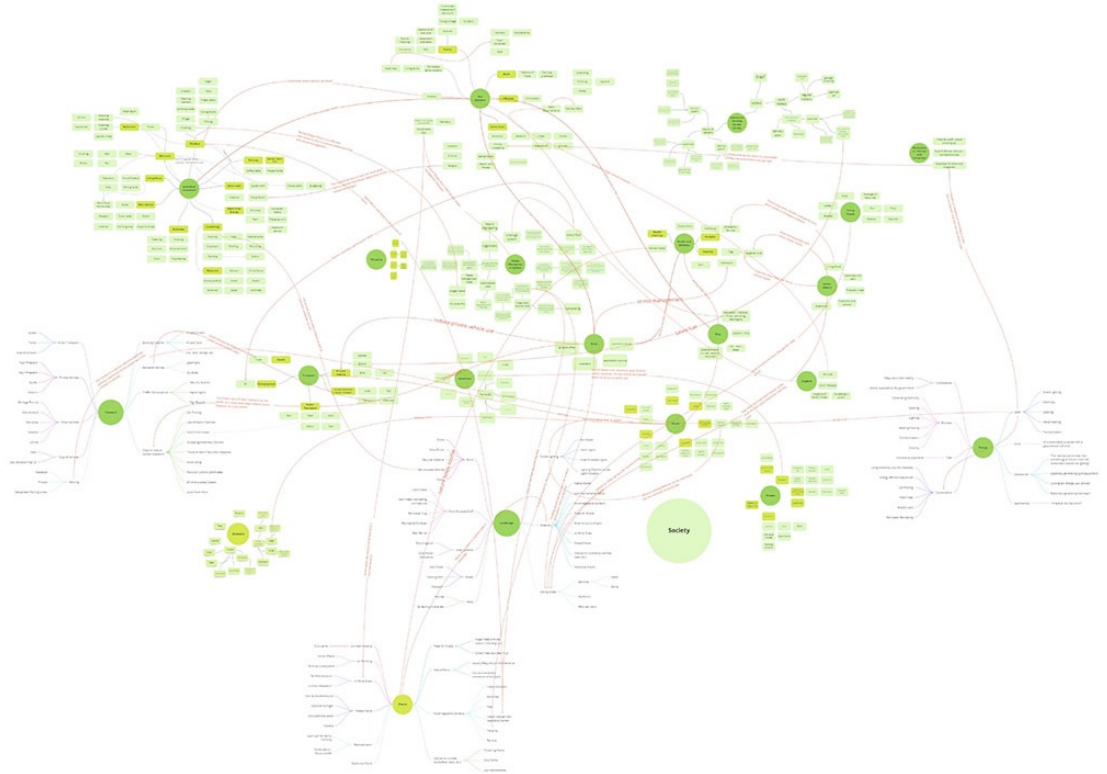


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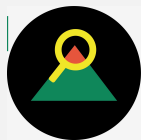


Interactions between Sub-systems in a Society

Giga mapping of
possible elements
taking part in a
sustainable society
and household



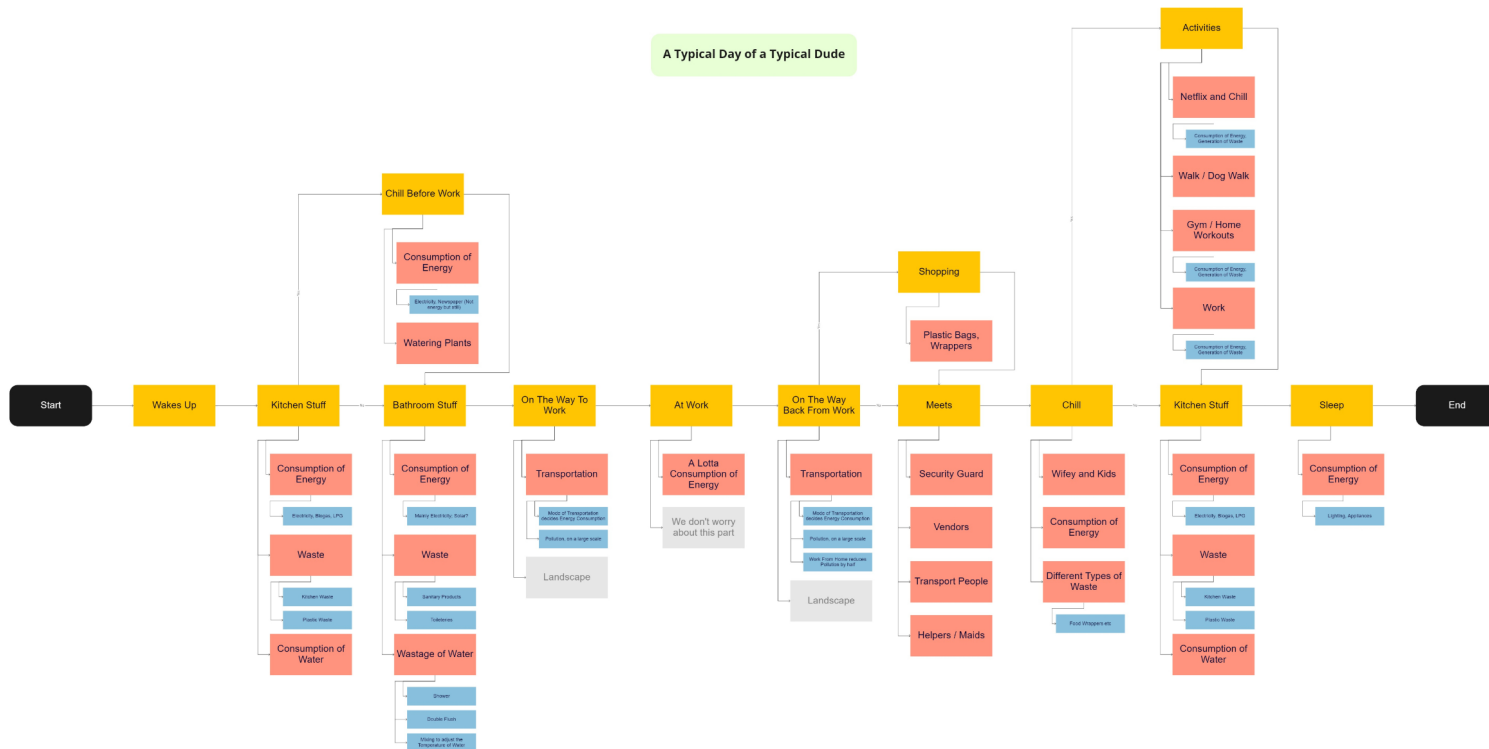
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Daily Life Individual Households

Activities a
middle aged
individual could
perform during
a **typical** day
from morning
to night

C7.1-012

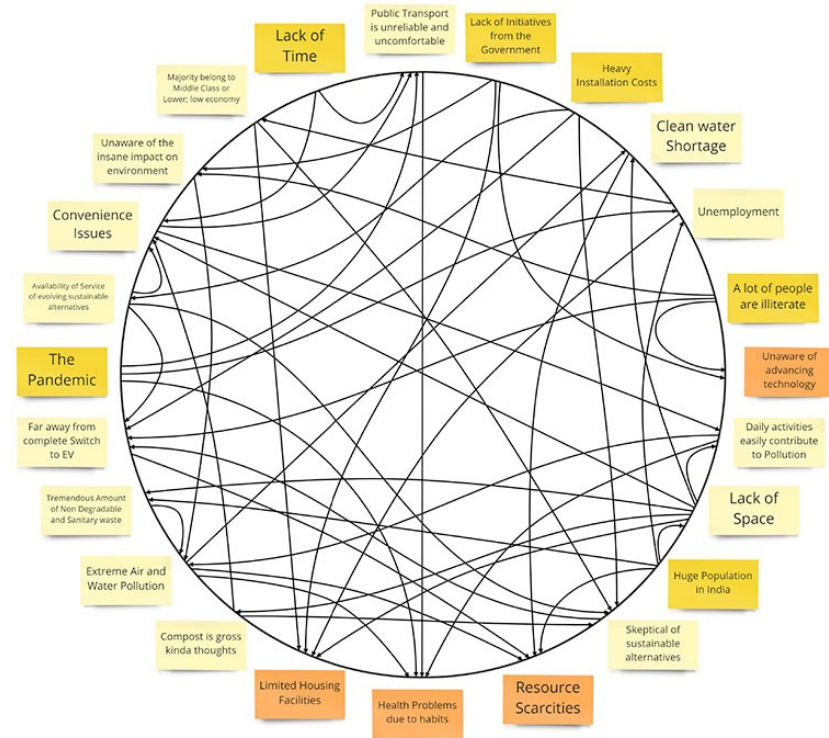
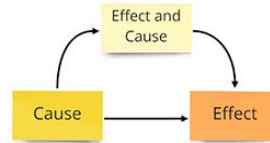


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Why are Sustainable practices not adopted

Listed down factors, grouped similar ones and linked the Cause to the Effect



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Inferences

- Collective Effort
- Lack of consciousness in terms of sustainability
- Lack of space and multifunctionality
- Difficult to implement in existing space
- Heavy Installation Costs
- Accessibility of Service
- Access to Faster Alternatives
- Lack of Convenience and Time

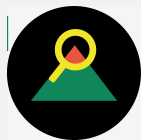
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Primary Research and Insights

through a **survey** on Google Forms and
received **115 responses**

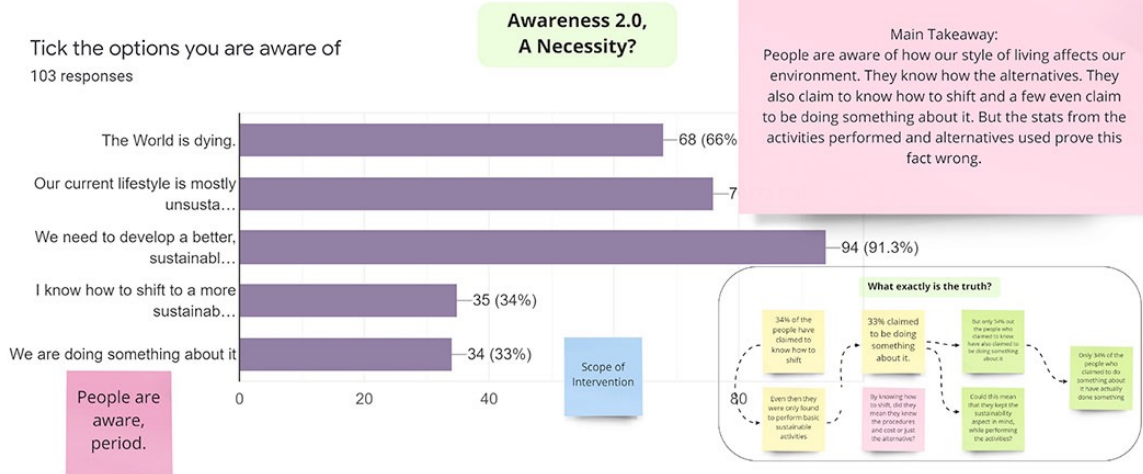
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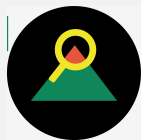
Primary Research

Are they aware?

This was intended to understand the nature of people's awareness regarding a sustainable lifestyle.



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Primary Research

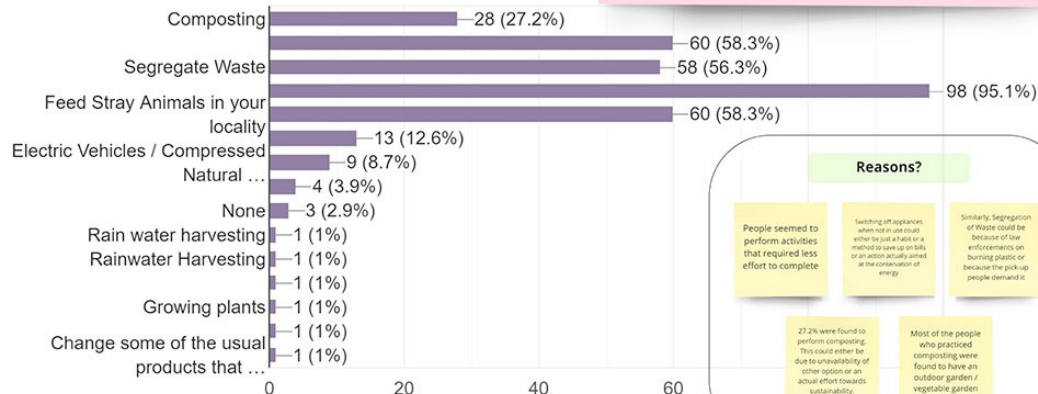
Sustainability in daily life?

Do they actually do the things they claim to do?
Well, No.

Understanding the Nature of Actions

Scope of Intervention

Do you do / use any of the following?
103 responses



Main Takeaway:

People might perform actions to save the environment but they usually are not ready to sacrifice convenience. Most of the activities were found to be performed either due to the benefits to the user or due to the unavailability of other options

Reasons?

People seemed to perform activities that required less effort to complete

Switching off appliances when not in use could either be just a habit or a method to save up on bills or an action actually aimed at the conservation of energy

Similarly, Segregation of Waste could be because of law enforcements on burning plastic or because the pick-up people demand it

27.2% were found to perform composting. This could either be due to unavailability of other option or an actual effort towards sustainability

Most of the people who practiced composting were found to have an outdoor garden / vegetable garden

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Primary Research

Understanding Concerns

Were the concerns that they had reasonable?
What was the main reason for the concerns?



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Problem
Area

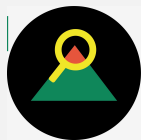
Adoption of Sustainable Alternatives

After doing indepth research we realised how there are **plenty of sustainable solutions** that exist for almost everything yet for some reason, **not a lot of people have adopted** them into their lifestyle.

Our task now was to **not develop more sustainable alternatives** but to understand and solve the issue of adoption of existing solutions

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Problem Statement

Promoting the **Adoption** of Sustainable Alternatives by tackling problems of **inconvenience, awareness** and **reluctance**

CORE PROPOSITION

Our aim is to have a **timeline based approach** to make the **transition** from our current lifestyle to **incorporating sustainable practices and options**, while tackling issues of **possible reluctance** and **enabling awareness** on a society level.

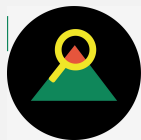
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Final Solution

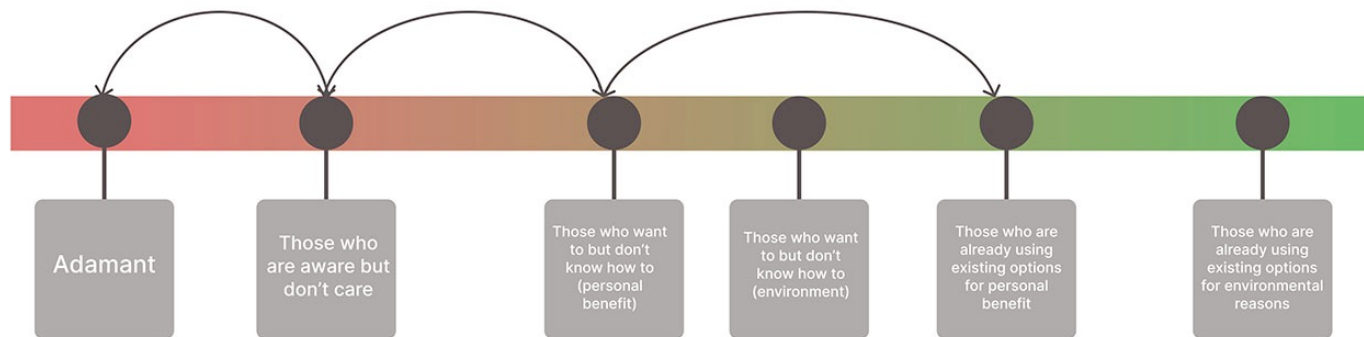
We made a framework that people can follow in order to make to plan for implementing sustainable practices (timeline approach)

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USER GROUPS

(understanding the spectrum)



The spectrum runs from the **most adamant people** marked in Red to those who have **already shifted for the environment**.

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USER GROUPS

1

Action Stage

*Those who have
already adopted
sustainable
alternatives*

2

Preparation Stage

*Those who want to
adopt sustainable
alternatives but don't
know how to*

3

Contemplation Stage

*Those who know
about sustainability
but don't want to
adopt sustainable
alternatives*

4

Precontemplation Stage

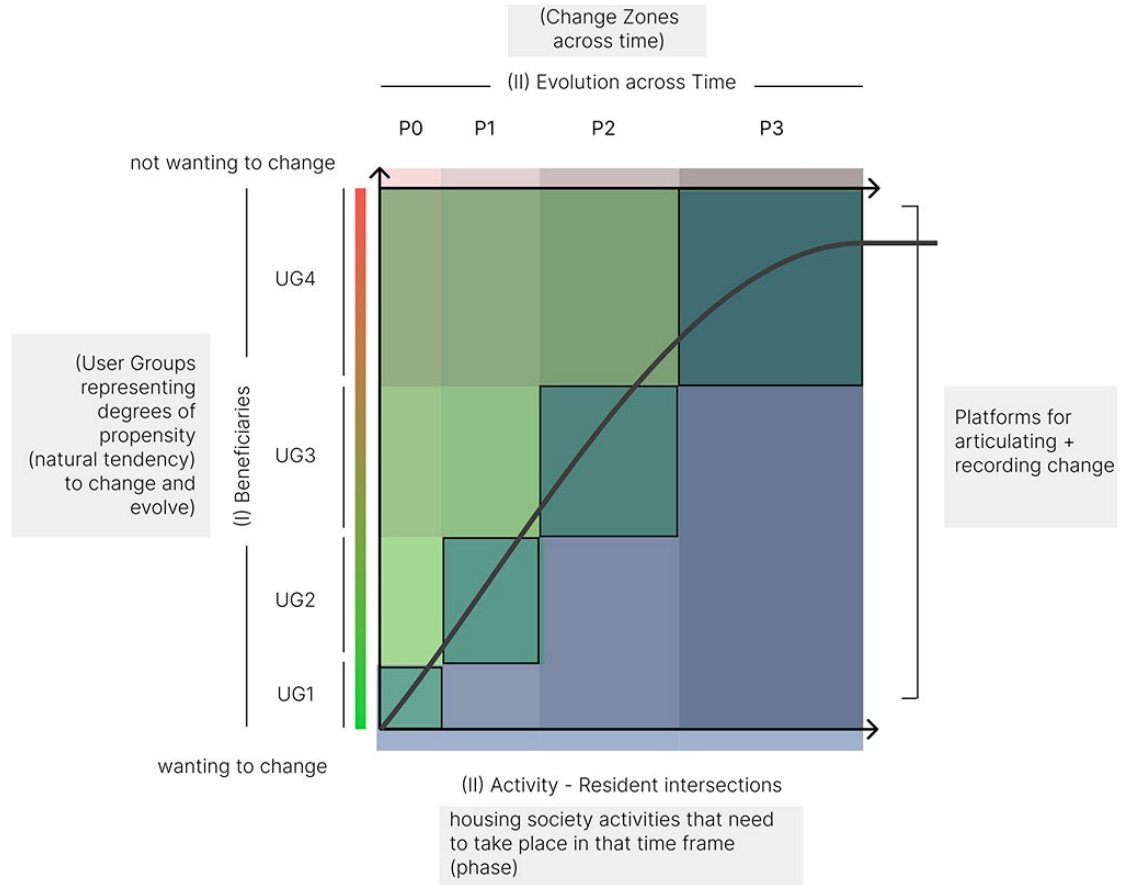
*The ones that are
really adamant about
adopting sustainable
alternatives*

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Mapping Intersections - Prof Ajanta

This model
summarises the
intersections between
**circular and angular
functions** and the
responses across time



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PHASE ZERO

WHAT

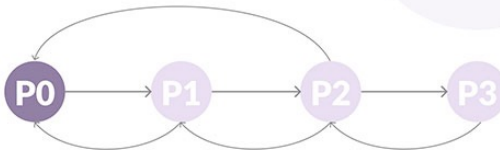
Planting the idea of
Sustainability in the
minds of people

WHO

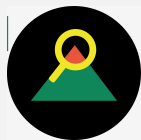
Bringing on-board our
background stakeholders
eg : NGOs, Sustainable
Solutions Businesses

HOW

- Restructuring
Marketing Strategies
- Making it all about
the benefits of the
consumer



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PHASE ONE

WHAT

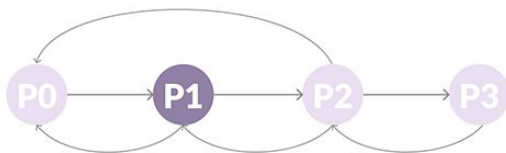
- Better accessibility and availability of information
- Aiding them to have a smooth and easy shift

WHO

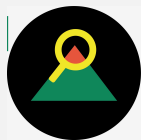
User Groups One and Two (Action and Preparation stage)

HOW

- Spread of Awareness 2.0 through various media
 - Tester onboarding
 - Activities to facilitate the spread



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PHASE TWO

WHAT

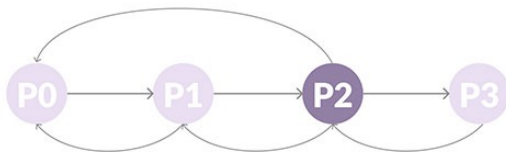
Reducing Reluctance
Motivating them to
adopt Sustainable
options

WHO

User Group Three
(Contemplation
Stage)

HOW

Using Phase One as a
cause leading to Phase
Two, the effect
Using **Personal
Benefits** as a tag to
lure Users in



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PHASE THREE

WHAT

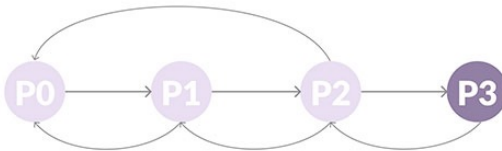
Normalising Sustainable alternatives, hence leaving them with no other option but to shift.

WHO

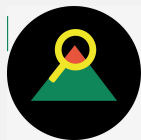
User Group Four
(Pre- Contemplation)

HOW

- Using Phase One and Two as a cause leading to the effect (Phase Three)
- **Creating FOMO** (fear of missing out) among the rest
- Proliferation of Sustainable options due to **increasing demand** from Phases One and Two



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THE PLATFORM

To record and
analyse change
while **keeping track
of the progress**
throughout the
process

Different types:
platform for
interventions and
recording change;
**Angular and
Circular**

**Universal indicators
and targets** from
SDG; even small scale
ones for households to
measure progress

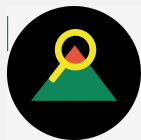


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Here's a representative **Miniature Society**
that illustrates how our approach would be
set in action

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PADMA CO-OP HOUSING SOCIETY



C7.1-034



scenario

These are four households from Padma Co-op Housing Society. Each of them have a different mentality. Some of the society residents want to practise segregation of waste to take a step forward towards sustainable living.

This shows how each of them react to the introduction of certain incentive activities based on their nature of behaviour.

H1 are the first ones to adopt them.

H2 knew about these activities but didn't have adequate knowledge about what to do after that

H3 was not ready at first but after understanding the incentive, they show a basic amount of reluctance.

H4 initially strongly refuses to practice it but over time with certain convincing measures start doing it as they feel left out.

Household Two (H2)

- Well aware of the impact
- Inclined towards the concept of a sustainable environment
- Don't exactly know how to shift
- A trigger might help them



H2

Household Four (H4)

- Adherent when it comes to even a slight shift
- Despises sustainable practices
- Would rather focus on a comfortable living than saving the planet



H4

Household One (H1)

- Have already Adopted various Sustainable Methods
- Well aware of the hazardous impacts of people's current lifestyle.



H1

Household Three (H3)

- Unaware of available alternatives
- Skeptical about the ones that they know about
- Mindset can be changed with certain stimulation?



H3

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Example 1 : The Planting of Trees

Tackled Sustainability Pillar : Social

"Assuming there are one billion households, and each household plants two trees a year, we will have planted 9 billion trees by 2025. Is that too much to ask?"



Possible approaches/ solutions

- Creating a **Sense of Togetherness** among the people (family, friends, neighbours etc)
- Leaving the **Choice of plant to the Person** (Eg: Easy Maintenance, Aesthetics, Edible, Medicinal, etc)
- **Engagement factor** : Connecting to the plant (Eg : By addressing them as a person you can take care of; could lead to a trend on social media like #nextslide)

Indication of process

- Setting a **milestone every 6 months** and the possibility of committing a certain a public space to that. A Reward System, maybe?

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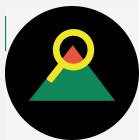
New Trend

#livingthesuslife



'Post a picture
with your
weirdly named
plant'

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Example 2 : Green Energy

Tackled Sustainability Pillar : Economic



Possible approaches/ solutions

- **Focus on saving money** in the longer run
- Since a full transition at a household level is difficult, **exposing people to the Alternatives** which could ease them into transitioning (Energy efficient appliances, Solar Cookers, etc.)

Indication of process

- **Bills showing the difference** in the amounts due, comparing it with the bill of the previous month (Savings bring about a sense of achievement)
- **Electric Meters** displaying the Amount due at any point of time rather than the units consumed

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Example 3 : Waste Management

Tackled Sustainability Pillar : Environmental



Possible approaches/ solutions

- **Making them realise** and confronting them doing the action (Visual cue as a reminder or praising them for doing it successfully)
- Using their **Social Status/Image**. (People tend to be aware of their actions in a public space)
- **Beautification** of the environment (cleaner space, less likely to make them dirty)

Indication of process

- We could have the **cleaners give monthly feedback** on how people are maintaining these disposal areas while throwing in waste.

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Immediate Steps

Guidelines and Template that can be used by institutions like NGOs or even societies

Sustainable Alternatives Adoption Guidelines

This framework is an approach to increase the number of users of sustainable products and practices in a systematic manner by targeting people of different mindsets at different stages of the timeline and use of appropriate activities and products

Phase 0 - Preparation by institutions

Phase 0 is the starting phase and it involves setting up things for implementation of specific guidelines or restructuring of marketing strategies to plant the idea of sustainability in the minds of the people.

Target: Those who are unaware of the concept of sustainability

Methods:

- Weekly column in the newspaper on sustainability
- Posters put up in surroundings
- Pamphlets through newspapers

This is a subtle way of increasing presence of the concept of sustainability which would subconsciously register in people's mind. This will set a ground ready for Phase 1 to take place.

Phase 1 - Accessibility of information

Phase 1 would involve creating awareness about how to do things, how to implement sustainable practices, who to approach, etc

Target: Those who want to adopt sustainable practices but don't know how

Method:

- Making a comprehensive collection of information about various aspects like the system, the installation method, space required, the time required, cost breakdown, maintenance, and servicing, etc and relevant to their economic condition, culture, geographic conditions, etc available to them through some media like workshops, website, social media, etc
- Involving people who have recently retired or housewives in activities like tester onboarding, or affiliate marketing through which they can spread right information to other people.

1

GUIDELINES

Sustainable Alternatives Adoption Template

Society Name _____

No. of Households _____

Location _____

Age group of Residents _____

Type of Housing _____

Aspect of Sustainability _____

Budget _____

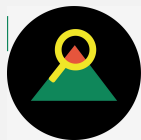
PHASE 1 Preliminary Awareness

FUNCTION	EXAMPLE	PLAN
What is the requirement	People should know how and what type of waste should be segregated and for what	
Information required to be conveyed	Type of waste, segregation, environmental impact, inspiration from others practicing it.	
How will it help	People will feel in control with their surroundings and understand what they are doing	
Platform containing information	Website having guide	
Medium - How will people come across this?	Workshop conducted in the society	

4

PLANNING TEMPLATE

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Evaluation

For evaluation we presented our Approach to the Council Members of the three different housing societies that we belong to and received valuable insights.

- The approach is **quite unique** and seems **viable**
- **How do you sustain it in the long run?** What if people lose interest?
- **The Maintenance aspect** of the sustainable practices in daily lifestyle **needs more work**.
- The maintenance sounds like the maintenance of an appliance and not **behavioral maintenance** for some reason
- One of the council members liked the idea of planting two trees a year and **has considered taking it up** as part of the society :)

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References

Case Studies and Reports

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Other

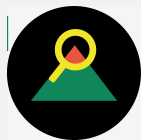
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Here's a link to our full list of References

https://docs.google.com/document/d/1TJHgmDOW2J96y-_8wyHT0j8oeQ-vBNgNizURI8fkuY/edit?usp=sharing

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Acknowledgements

We thank **Prof. Pramod Khambete**, **Prof. Ravi Pooviah** and **Prof. Ajanta Sen** for providing us with valuable feedback and guiding us throughout the course of the project.

We thank all the **115 people** who participated in our survey and helped us with primary research

We thank the **Residential Association Council Members** of our housing societies for participating in the evaluation of our approach and providing us with valuable insights.

Thank You.



thank you



**Thanks for
Listening**

DT&I Case Study
Section: C7
Week 7

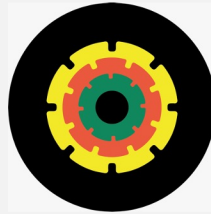
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DT&I Course – Week 7:



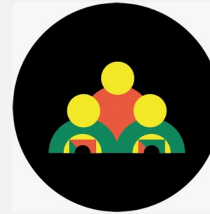
DT&I
Process
(20%)

- > Analysis
Part 1
- > Information/Data
Analysis



DT&I
Tools
(20%)

- > Artifact,
Activity, and
Spatial Mappings



DT&I
Project
(50%)

- > Analysis
- > Use of Artifact /
Activity / Spatial
Mappings



DT&I
Cast Study
(10%)

- > Case Study
Project:
Sustainable
Housing Society +
Coffee, Tea and
Spice Stories

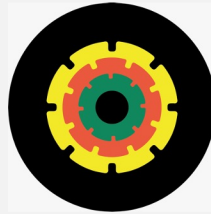
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DT&I Course – Week 8:



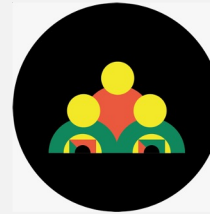
DT&I
Process
(20%)

- > Data Analysis Part 2
- > Persona
- > Inferences to Recommendations



DT&I
Tools
(20%)

- > Personas
- > OIOR Table



DT&I
Project
(50%)

- > Data Analysis
- > Creating Personas> Making OIOR Table



DT&I
Cast Study
(10%)

- > Case Study Project: Indian Medicine System



Supporting Organizations:



D'source Project



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Credits:

Presented by:
Prof. Ravi Poovaiah



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Credits:

Mentors for Case Study Project:

Prof. Ravi Poovaiah

Dr. Ajanta Sen

B Des Students:

Anagha Aneesh

Drishti Das

Prita Paul



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Credits:

Camera & Editing:
Santosh Sonawane



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Credits:

Think Design Animation:
Rajiv Sarkar



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Credits:

Graphic Icons:
Shweta Pathare



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Credits:

End Title Music:
C P Narayan



D'source Project



Open Design School



MoE's Innovation Cell



Credits:

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