padma

DEP302 System Design Project

Week 1

Team Padma

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Week 1
at a Glance

Aim: Research and Understanding the problem

Created a Schedule for the week

Listed out Systems with scope of Intervention

Research on a shortlisted few

Choosing the Area of Focus

Understanding our System

Study on Existing Methods

What we would like to do

Plans ahead

Initial Brainstorm Areas

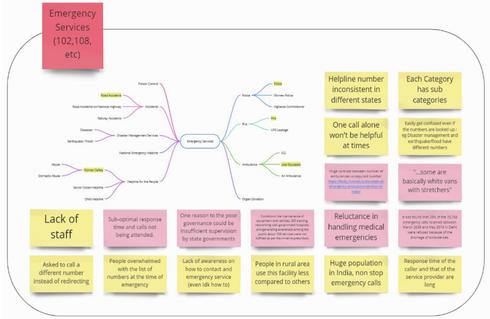
We compiled a list of 39 topics including the 15 suggested topics in the brief.

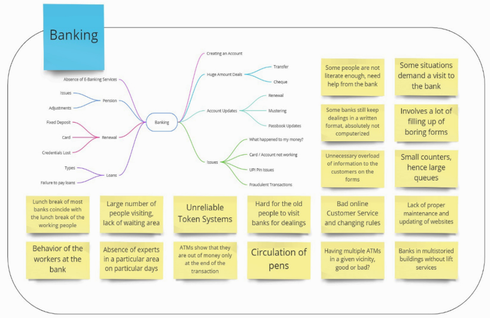
Shortlisted Topics

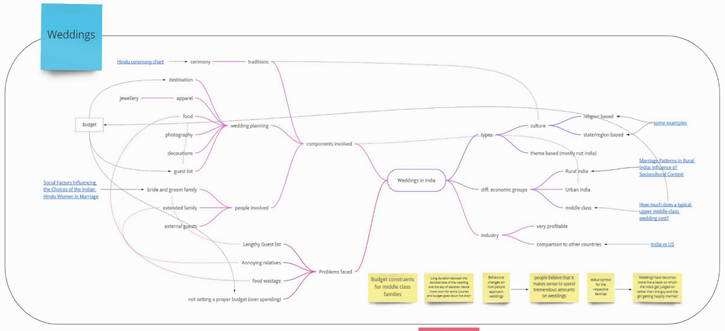
Out of the 39, we picked 15 of our favorite topics for further research.

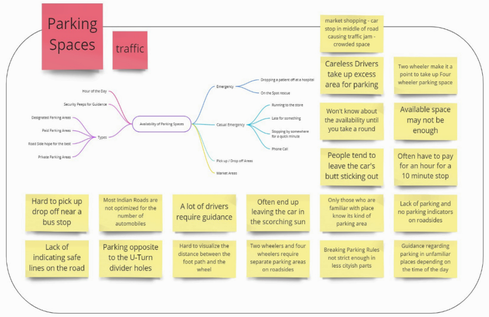
Research on topics

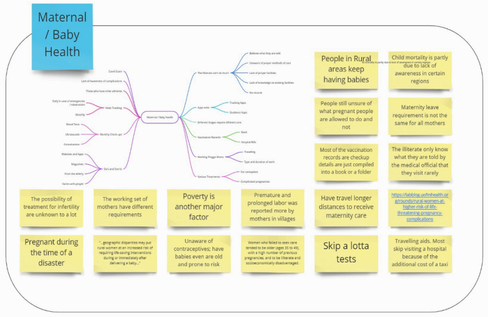
Surface-level research to get some understanding of how each system works and any problems

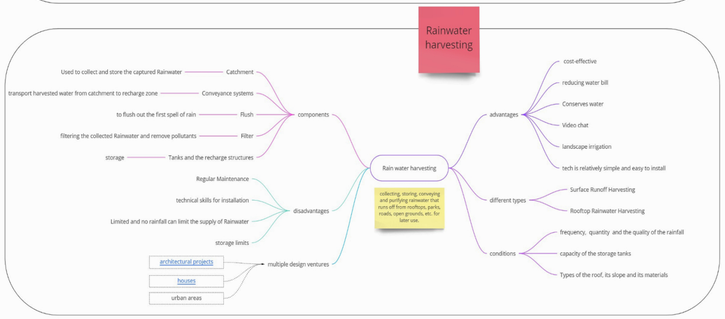


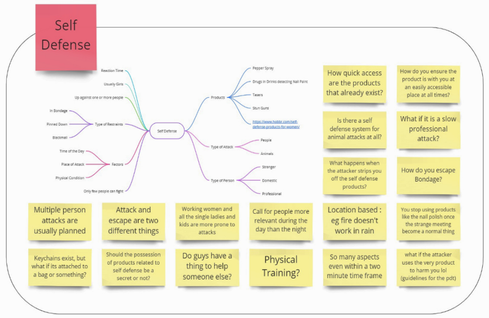










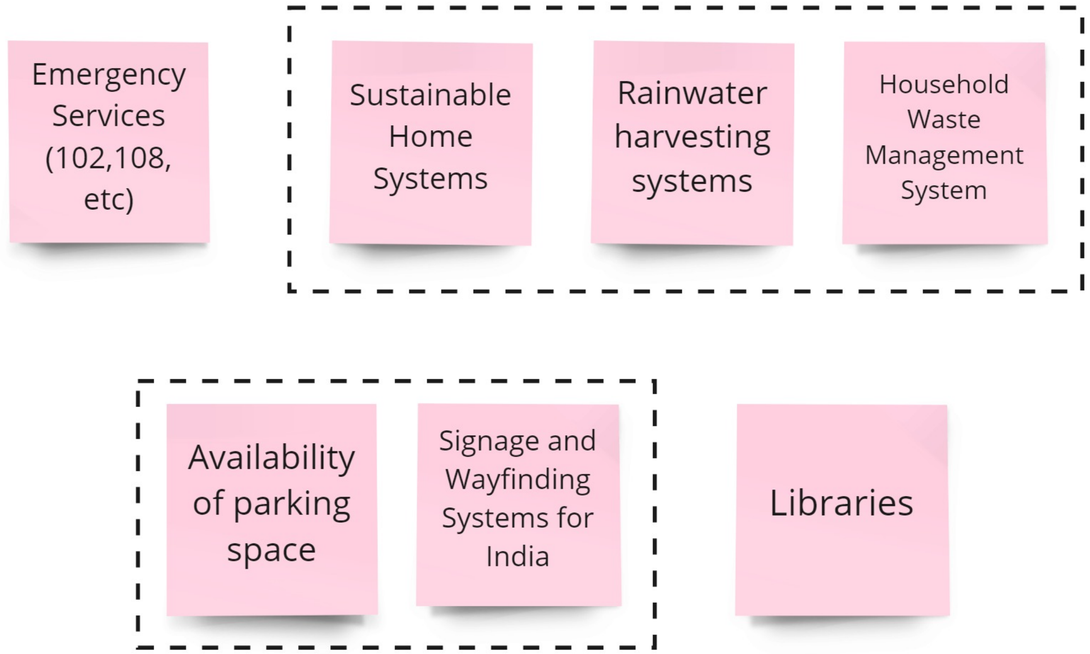


Further Shortlisting of Topics

Each one of us voted for five topics based on the research

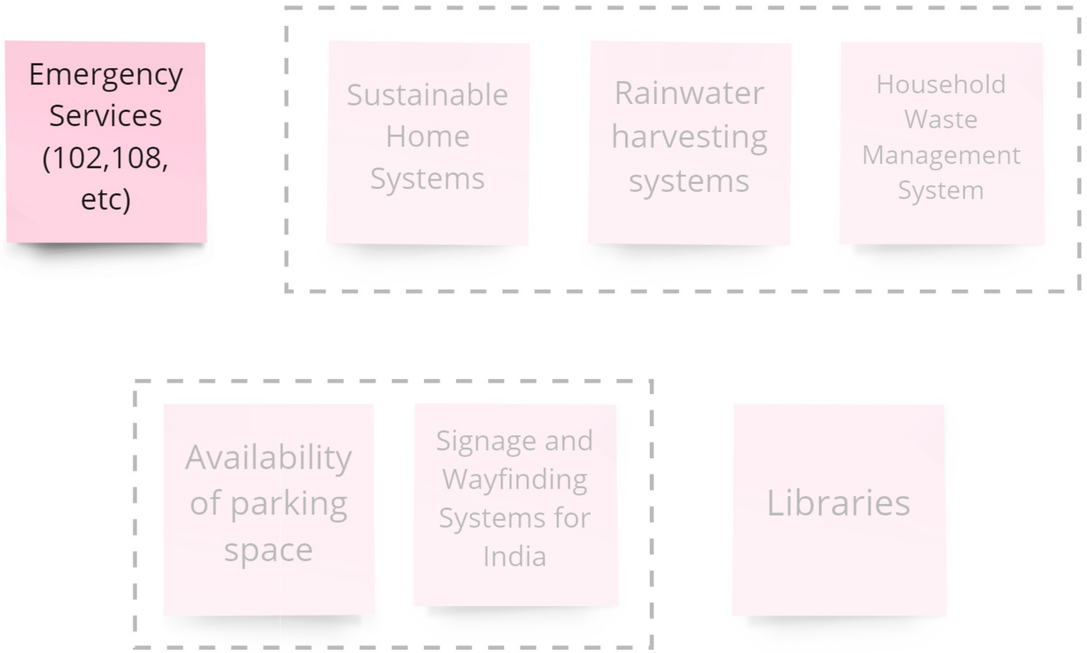
Final Shortlisted Topics

The final Seven Topics which were further categorised into four.



Topic 1

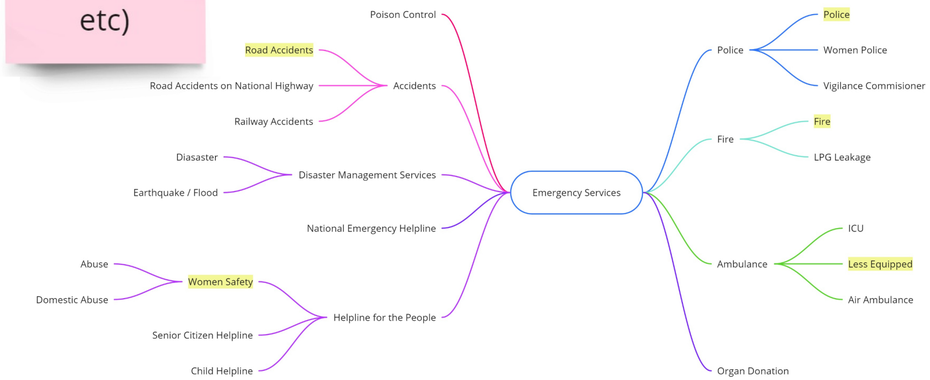
Emergency Services



Topic 1
Emergency Services

Researched on how they work in our country and the problems faced while trying to access them.

Emergency Services (102,108, etc)



Helpline number inconsistent in different states

Each Category has sub categories

One call alone won't be helpful at times

Easily get confused even if the numbers are looked up : eg Disaster management and earthquake/flood have different numbers

Huge contrast between number of ambulances vs required number https://factly.in/what-is-the-state-of-emergency-ambulance-services-in-india/

"...some are basically white vans with stretchers"

Lack of staff

Sub-optimal response time and calls not being attended.

One reason to the poor governance could be insufficient supervision by state governments

Conditions like maintenance of equipment and vehicles, GIS tracking, networking with government hospitals, and generating awareness among the public about 108 services were not fulfilled as per the timeline prescribed.

Reluctance in handling medical emergencies

It was found that 28% of the 70,768 emergency calls received between March 2009 and May 2010 in Delhi were refused because of the shortage of ambulances.

Asked to call a different number instead of redirecting

People overwhelmed with the list of numbers at the time of emergency

Lack of awareness on how to contact and emergency service (even idk how to)

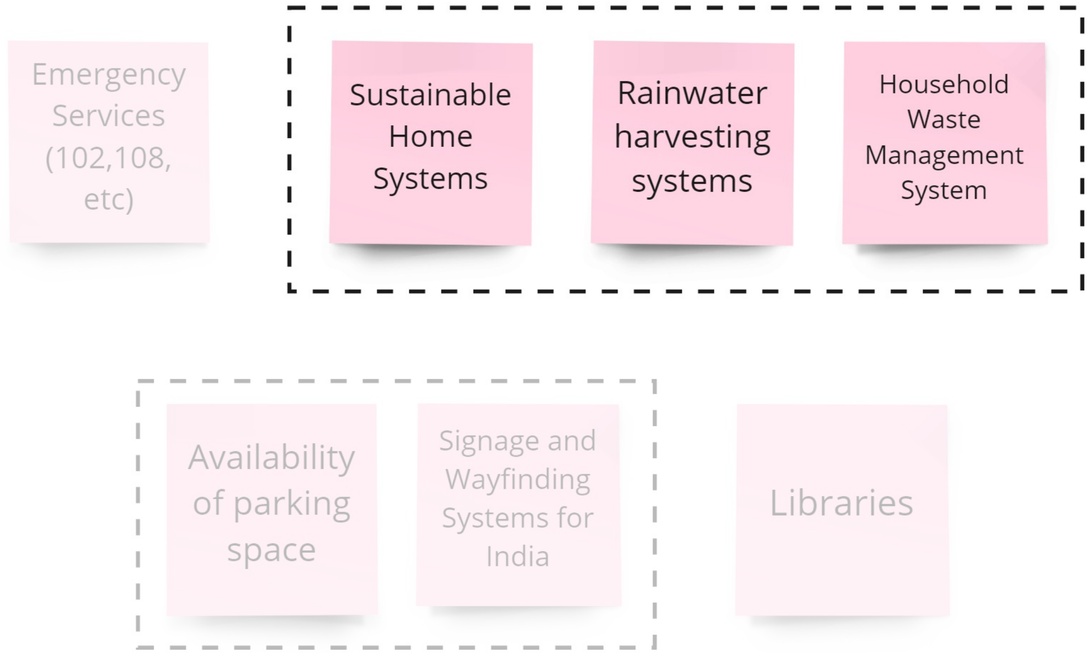
People in rural area use this facility less compared to others

Huge population in India, non stop emergency calls

Response time of the caller and that of the service provider are long

Topic 2

Sustainable Homes



Topic 2
Sustainable Homes

Creating more sustianable housing society for groups of families

https://graphicsbeyond.com/projects/#branded-environments-section

Environmental sustainability
The house is designed to reduce greenhouse gas emissions, save water and energy and reduce waste during construction and the house's lifetime.

http://www.gf.uns.ac.rs/~wus/wus09/Sustainable%20House%20web%20page.doc%202.htm

Sustainable homes
Bangalore
https://www.thebetterindia.com/86424/eco-friendly-homes-sustainability-bengaluru/amp/

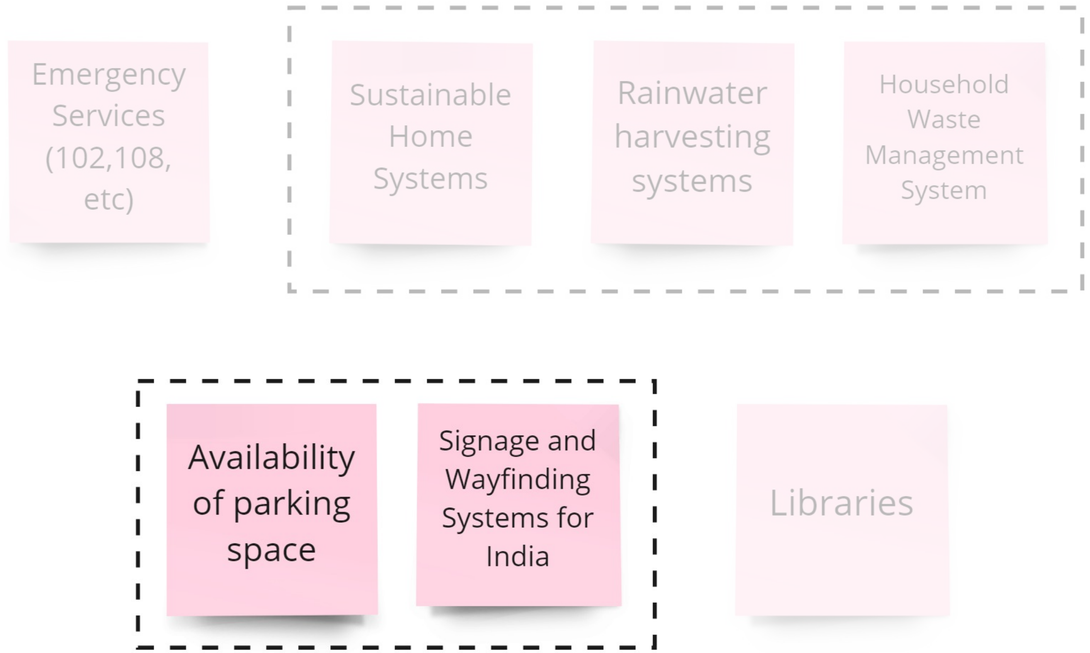
other
https://www.thebetterindia.com/224900/mumbai-architect-sustainable-homes-solar-air-conditioning-eco-friendly-cheap-india-gop94/amp/

https://www.thebetterindia.com/230030/karnataka-architect-low-cost-cheap-sustainable-home-unique-ecofriendly-no-ac-ang136/

Intent
Attempts to use ecofriendly material etc in housing, use of renewable sources helps. change in behavior for reducing consumption of resources - gas, electricity, water - also minimise waste

Topic 3

Parking Space



Topic 3
Parking Spaces

Discussed the difficulties faced while parking vehicles and how a pre-defined system for parking does not exist in our country.

market shopping - car stop in middle of road causing traffic jam - crowded space

Careless Drivers take up excess area for parking

Two wheeler make it a point to take up Four wheeler parking space

Won't know about the availability until you take a round

Available space may not be enough

People tend to leave the car's butt sticking out

Often have to pay for an hour for a 10 minute stop

Hard to pick up drop off near a bus stop

Most Indian Roads are not optimized for the number of automobiles

A lot of drivers require guidance

Often end up leaving the car in the scorching sun

Only those who are familiar with place know its kind of parking area

Lack of parking and no parking indicators on roadsides

Lack of indicating safe lines on the road

Parking opposite to the U-Turn divider holes

Hard to visualize the distance between the foot path and the wheel

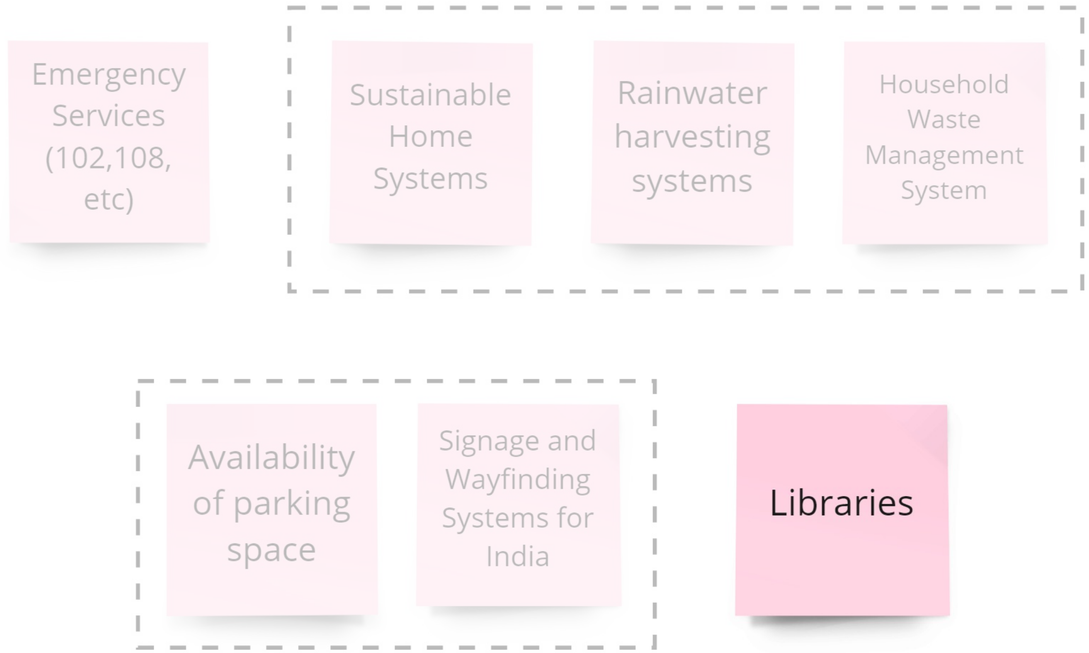
Two wheelers and four wheelers require separate parking areas on roadsides

Breaking Parking Rules not strict enough in less cityish parts

Guidance regarding parking in unfamiliar places depending on the time of the day

Topic 4

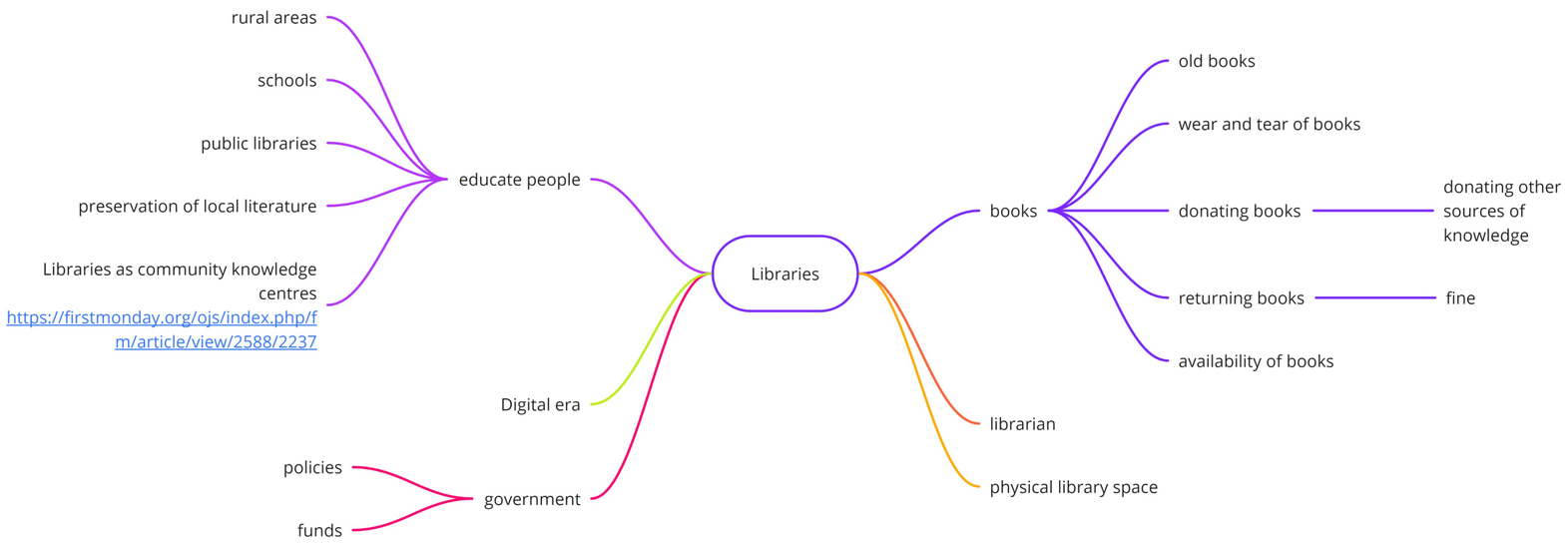
Libraries



Topic 4
Libraries

Evolving the form of libraries as knowledge centres to better suit the modern fast changing world

Intent - public libraries were knowledge centres - information was not very accessible earlier - now information/knowledge becomes obsolete very quickly hence books aren't the best medium. Community/ public knowledge centres equilavent in current changing times



The books are being digitized by the day and all the info is available right at our fingertips. We are moving away from books whether we like it or not and in that case what happens to the tens of thousands of books already available?

public library= a reading ambiance (unlike easily accessible links like google)

information/knowledge becomes obsolete very quickly now and hence books aren't the best medium

funds for library ledu; govt being assholes

Final Topic

Sustainable Societies and Housing 🏘️

Reimagining societies and housing complexes to implement sustainable lifestyle.

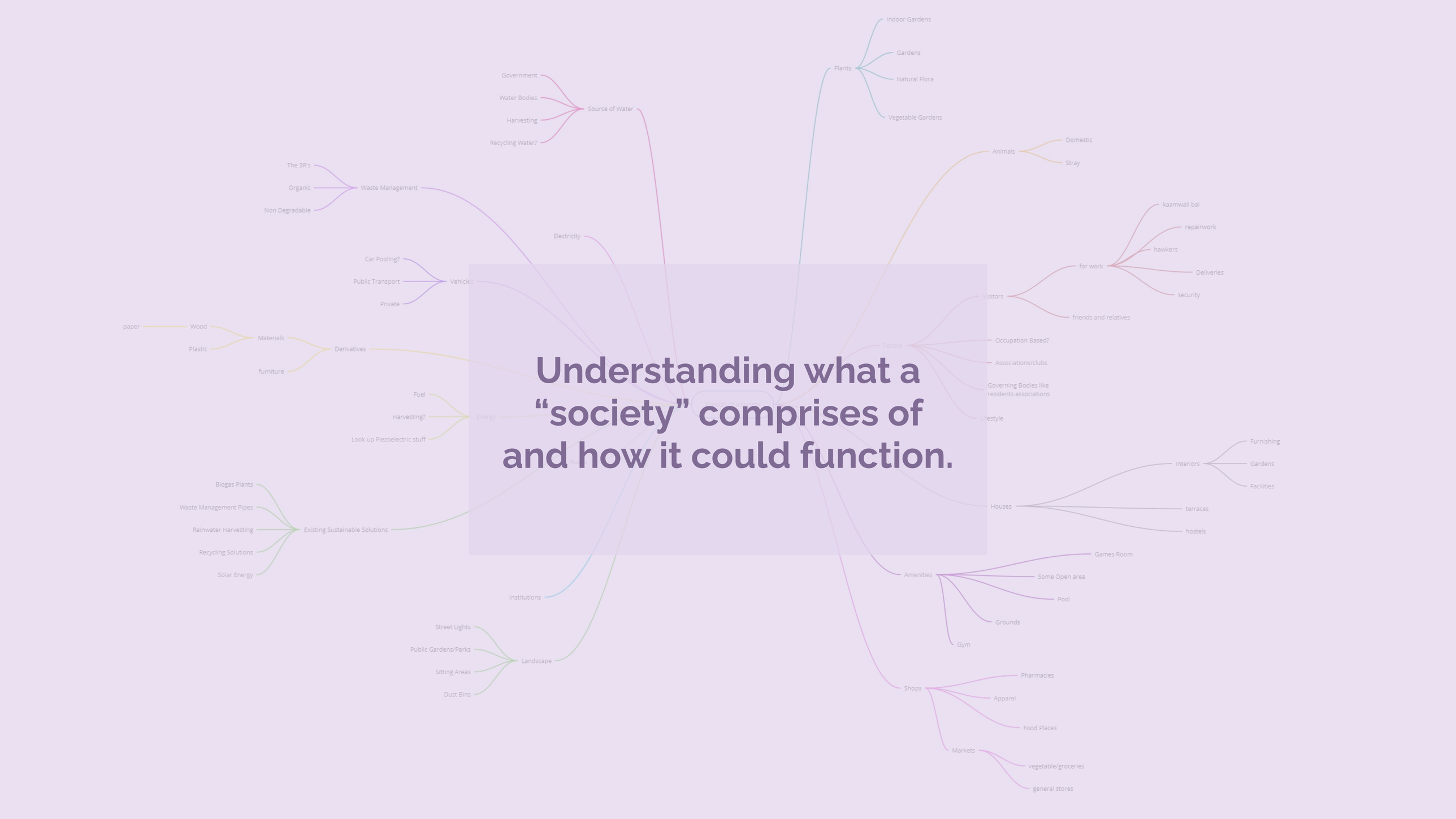
Sustainability means meeting our own needs without compromising with the ability of future generations to meet their own needs.

Sustainability can be of four types: human, social, economic, environmental

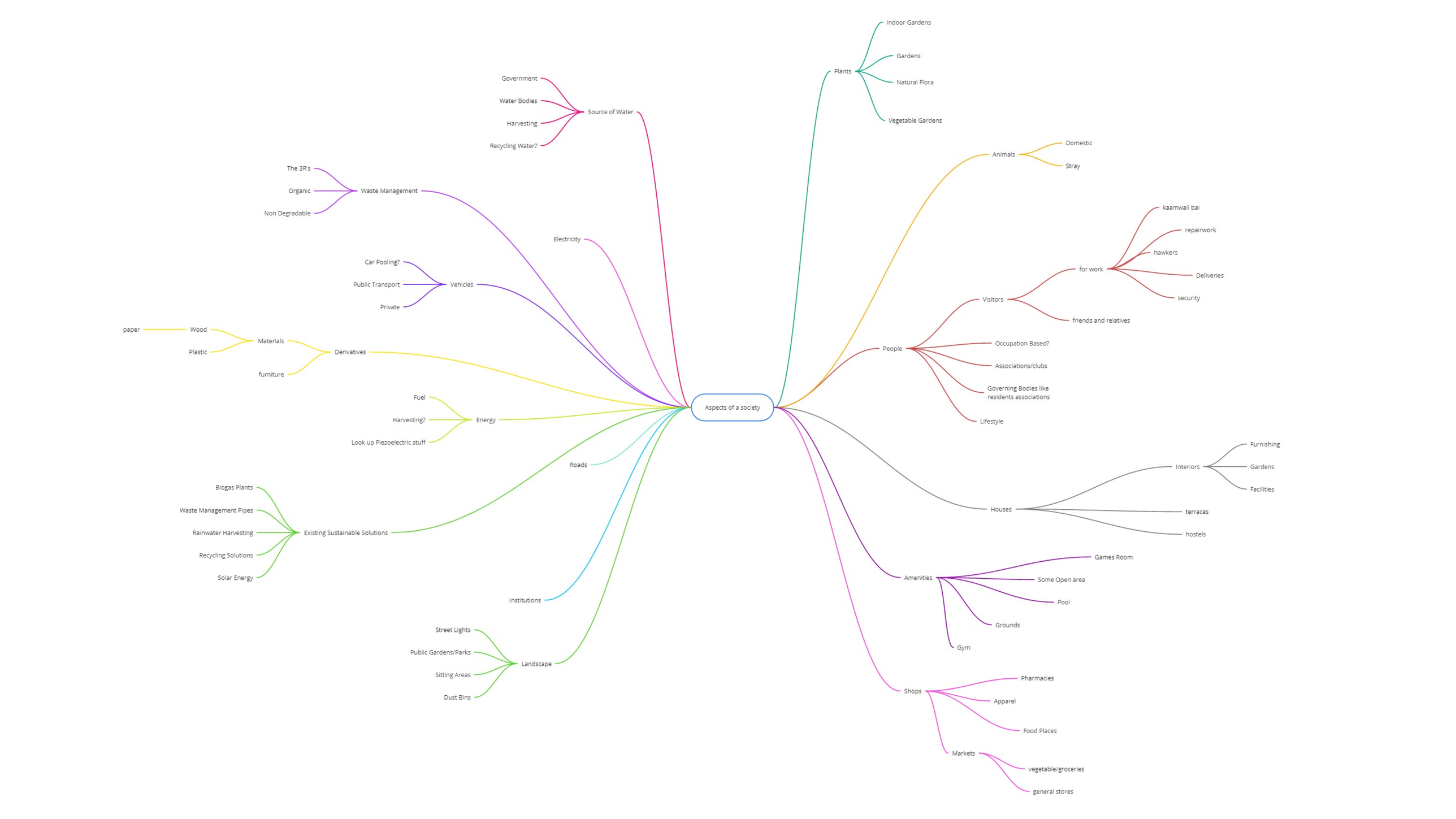
Final Topic

What could it *involve*?

- **Reorganizing** living conditions.
- **Reappraising** economic sectors or work practices.
- Using science to develop **new technologies** like green technologies, renewable energy.
- Designing systems in a **flexible and reversible** manner.
- **Adjusting individual lifestyles** to conserve natural resources.



Understanding what a “society” comprises of and how it could function.


Aspects of a society
Plants
Indoor Gardens
Gardens
Natural Flora
Vegetable Gardens
People
Animals
Domestic
Stray
Visitors
for work
kaamwali bai
repairwork
hawkers
Deliveries
security
friends and relatives
Occupation Based?
Associations/clubs
Governing Bodies like residents associations
Lifestyle
Houses
Interiors
Furnishing
Gardens
Facilities
terraces
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Amenities
Games Room
Some Open area
Pool
Grounds
Gym
Shops
Pharmacies
Apparel
Food Places
Markets
vegetable/groceries
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Source of Water
Government
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Electricity
Waste Management
The 3R's
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Look up Piezoelectric stuff
Roads
Existing Sustainable Solutions
Biogas Plants
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Rainwater Harvesting
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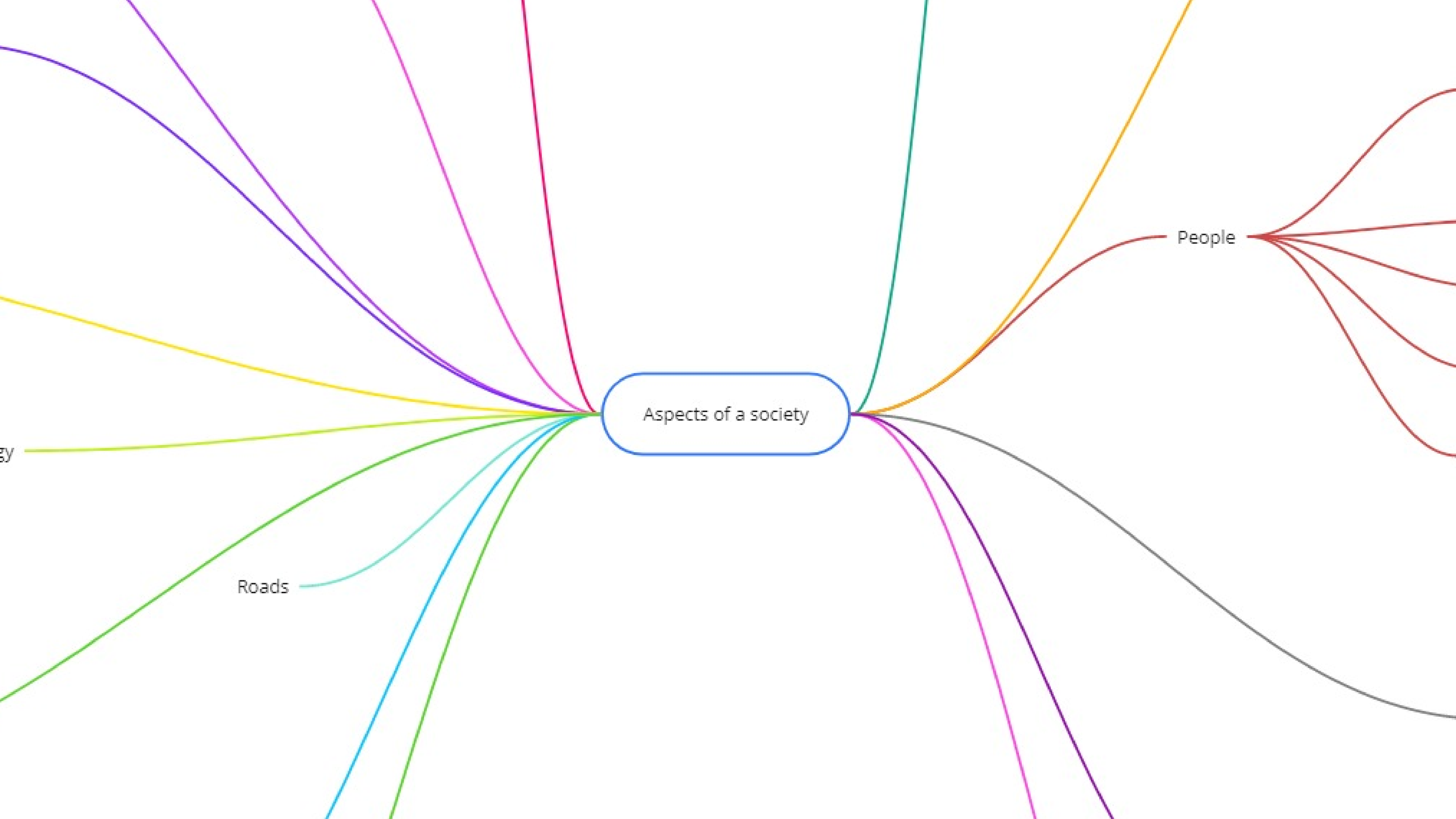
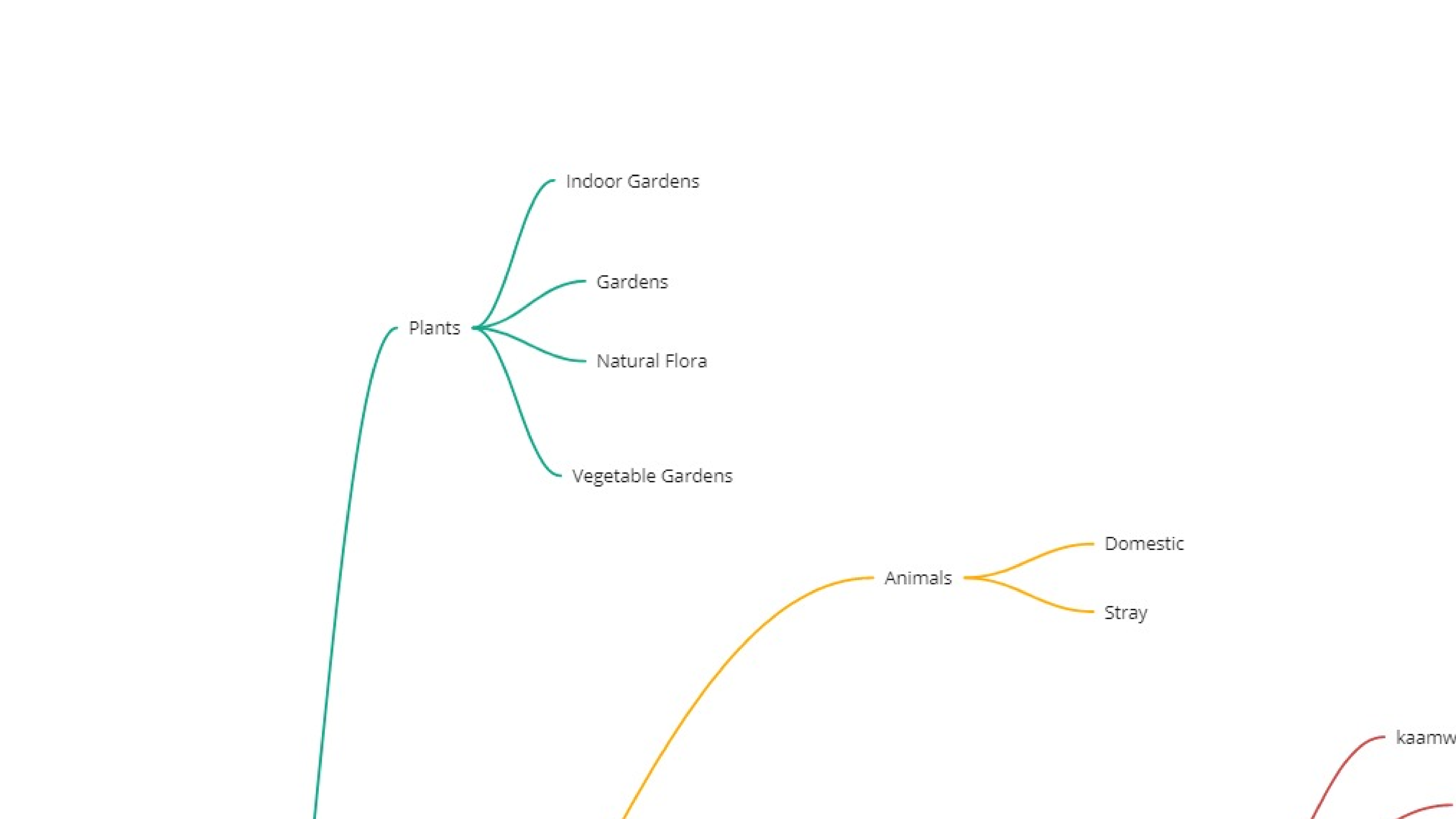
Solar Energy
Institutions
Landscape
Street Lights
Public Gardens/Parks
Sitting Areas
Dust Bins


Aspects of a society
People
Roads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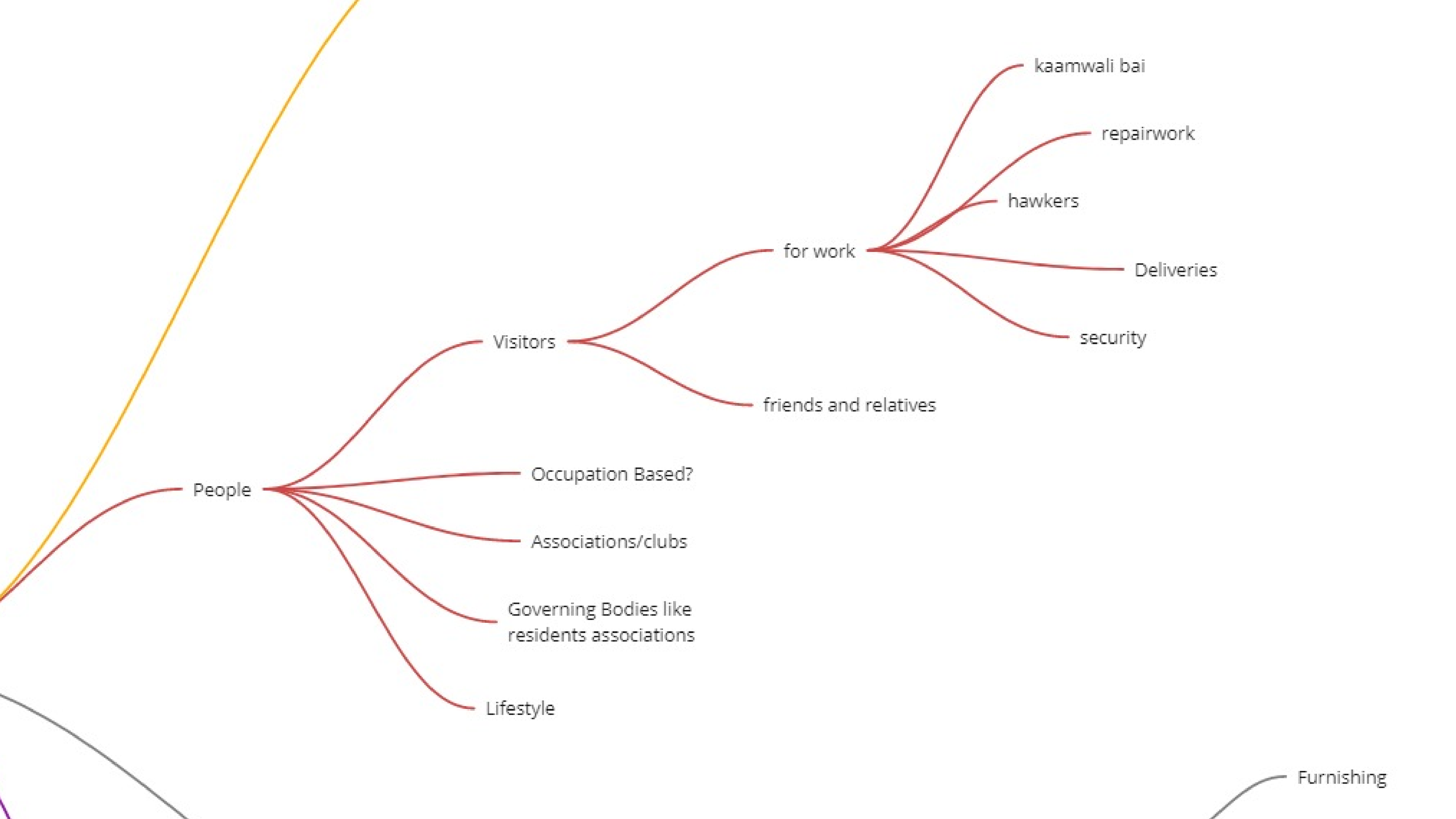
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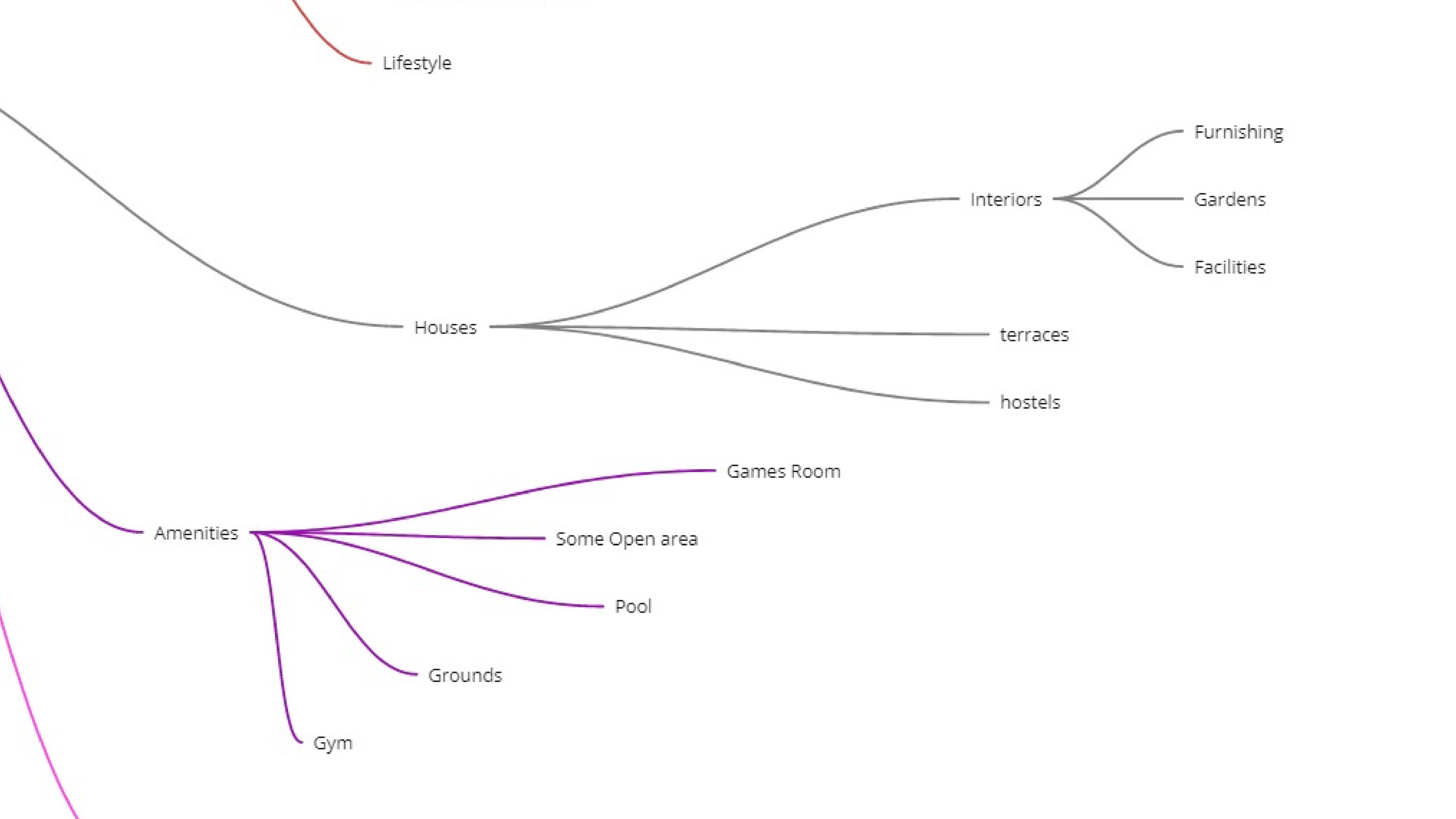
Furnishing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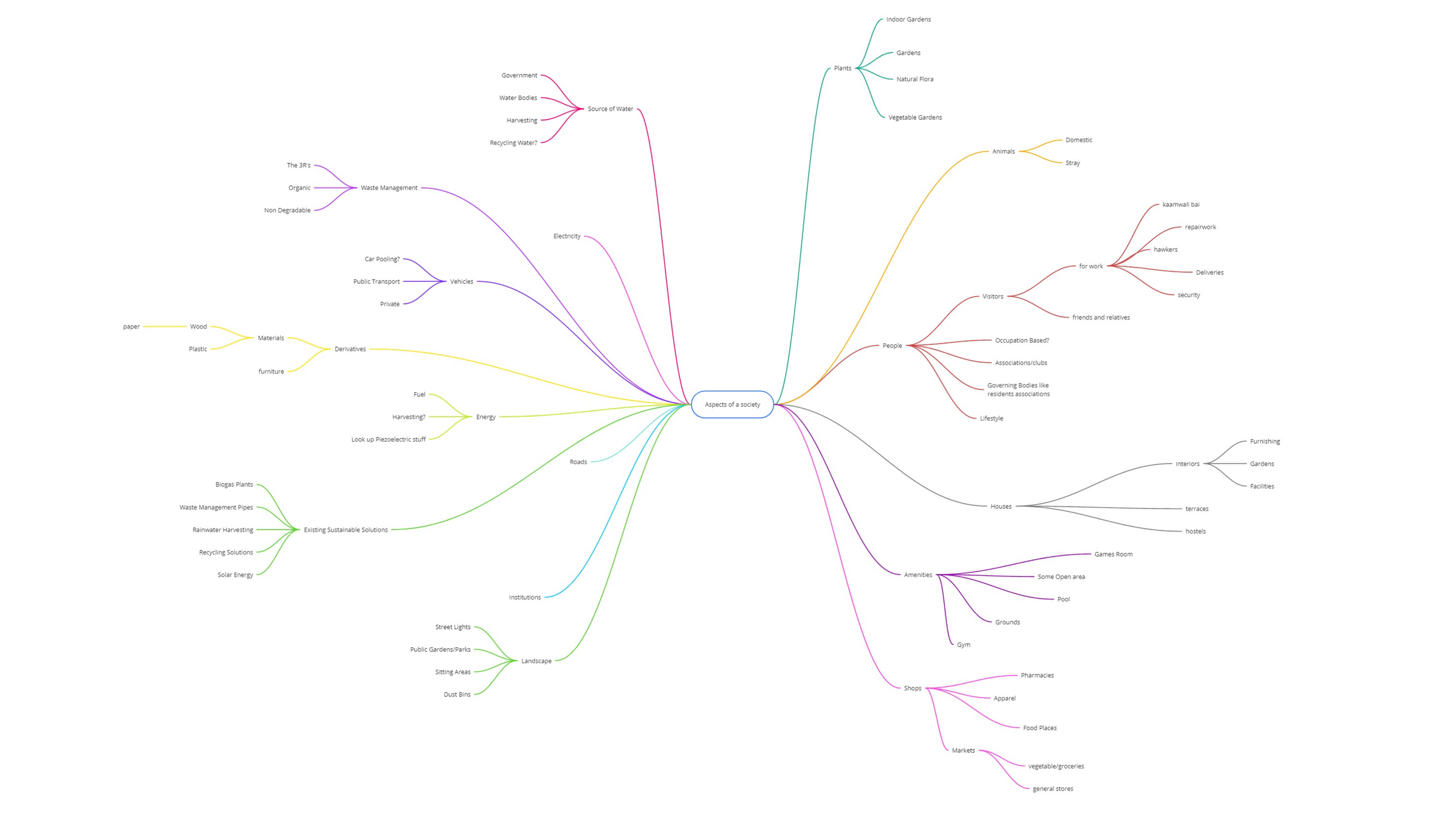
Amenities
Games Room
Some Open area
Pool
Grounds
Gym


Pool
Grounds
Gym
Shops
Pharmacies
Apparel
Food Places
Markets
vegetable/groceries
general stores

Understanding how the term “sustainability” is perceived in real life.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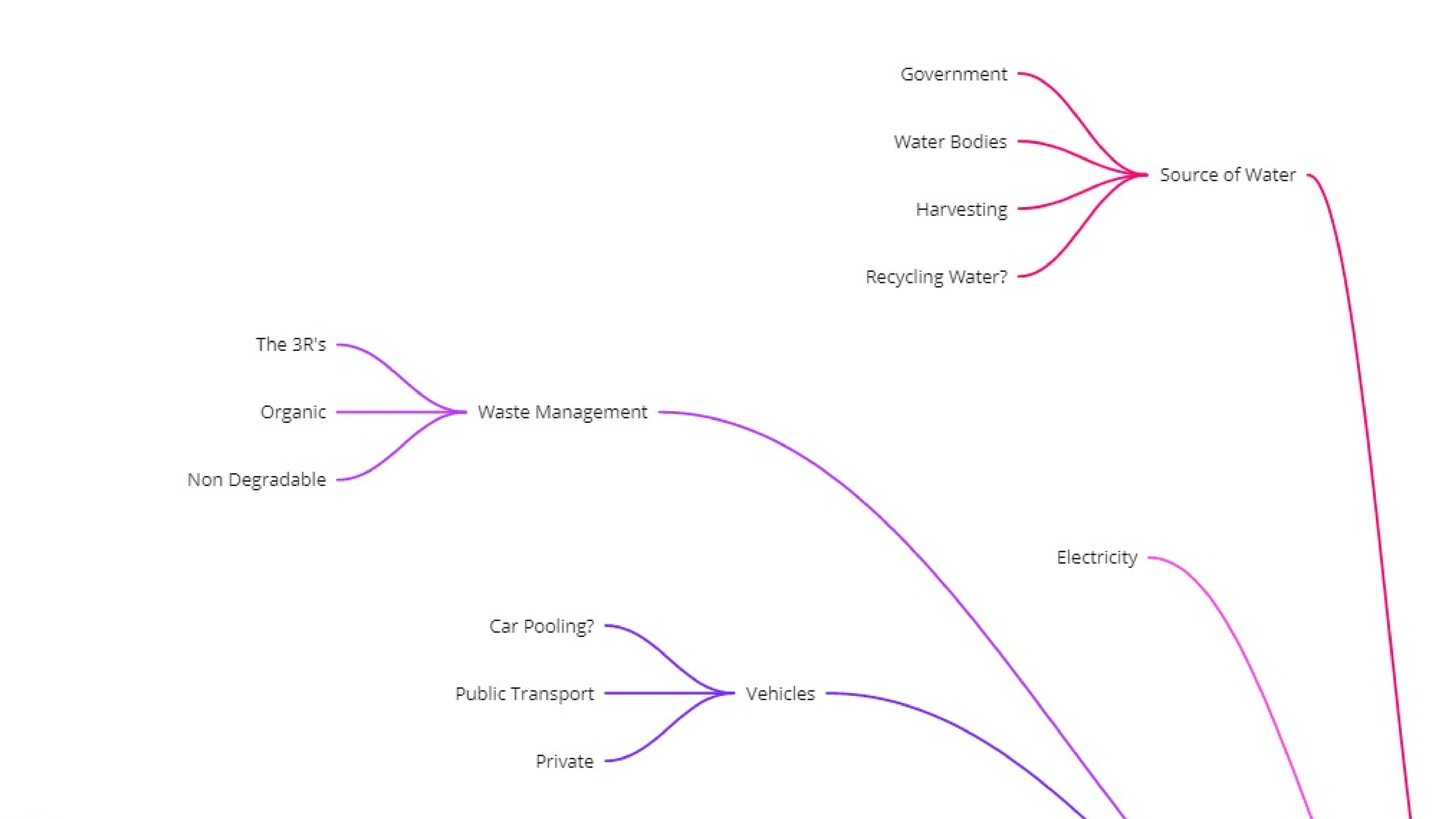
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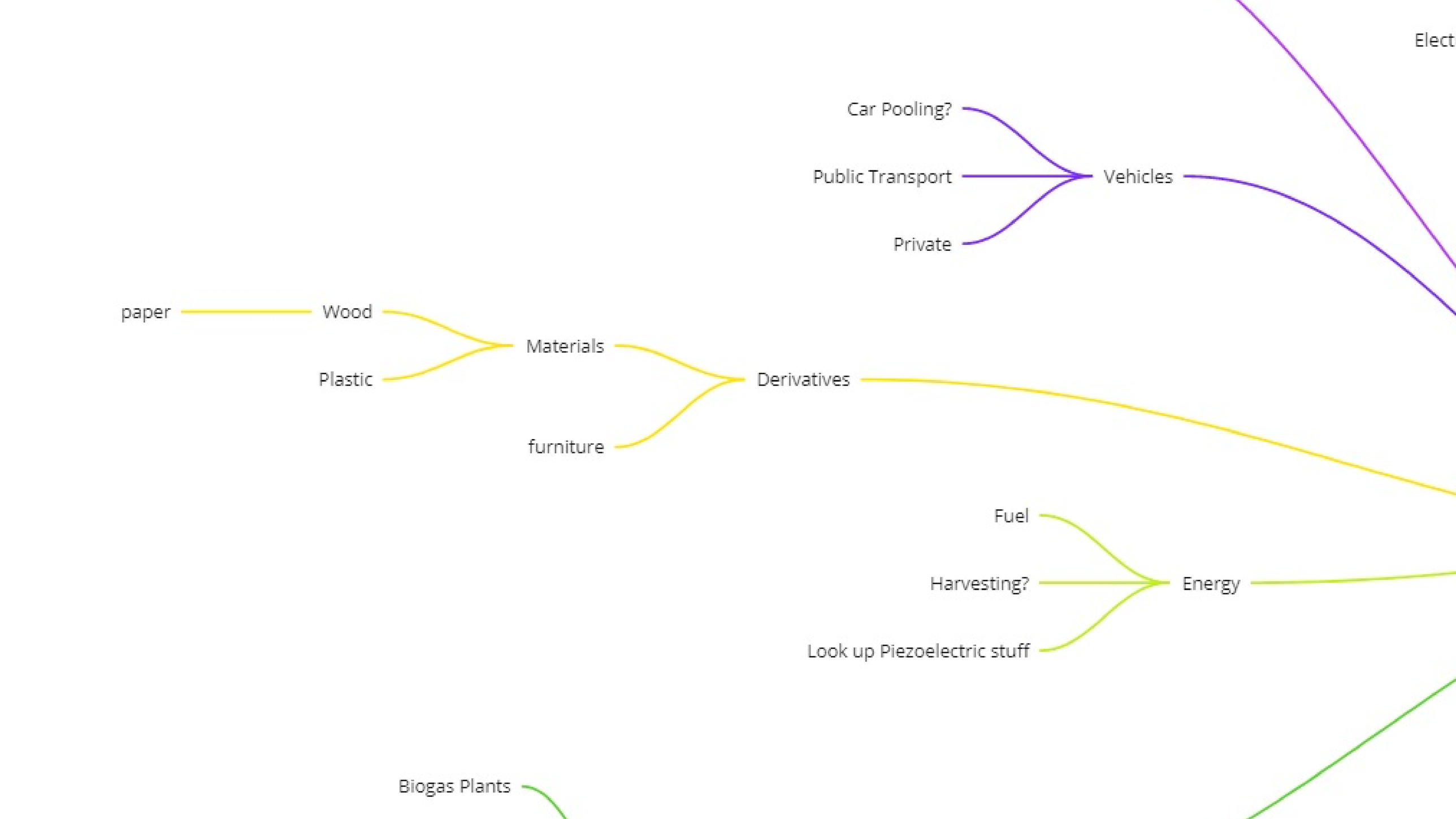
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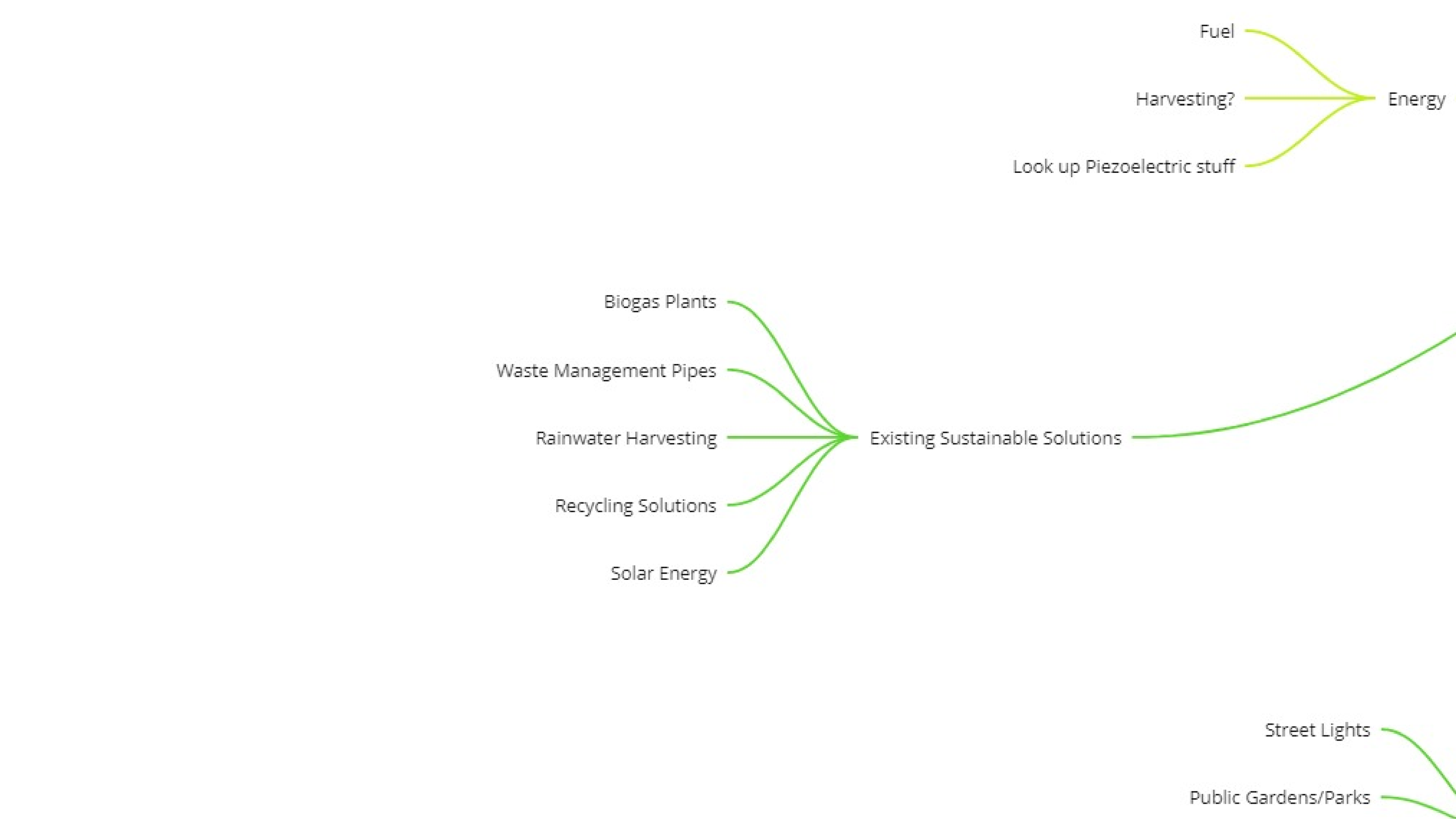
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Insights

Existing Sustainable Solutions come at a **huge cost of installation.**

Most solutions focus on the sustainability aspect of a **single house** rather than a society on a large scale.

The areas of intervention range from **creating minor changes in lifestyle** to switching to a **completely new system** in certain areas.

Even though a lot of sustainable alternatives exist at multiple levels, people are **not willing to sacrifice convenience** and their inherited lifestyle for saving the environment.

Insights

There is no motivation/**incentive for people** to adopt sustainable practices.
eg - Competitions like the water cup challenge

Availability of space is a concern in urban cities which can be a hindrance for setting up sustainable like biogas plants or solar panels

The pandemic has changed the way people live. How will this affect future housing?

Questions

Do we design an **ideal society** for a better future?

Or do we suggest **improvements to an existing society** to make it more sustainable?

How is our project going to be **different** from all these existing alternatives?

Next Steps

Doing further in depth research

Understanding how various activities are carried out

Mapping the interactions

Understanding breakdowns in the system

thank you.