Introduction:

The impact of climate change is extensive and varied, affecting ecosystems, weather patterns, economies, and human health worldwide.

It is primarily driven by human activities, such as burning fossil fuels and deforestation, leading to an increase in greenhouse gas emissions. These gases trap heat in the atmosphere, causing a warming effect known as global warming. Climate change has various impacts, including rising sea levels, extreme weather events, and disruptions to ecosystems, posing significant challenges for both the environment and human societies.
We took an initiative to know what people think of climate change and how they are tackling this problem.

Despite widespread awareness of climate change, there is a significant knowledge gap among urban populations, particularly those aged 18-30, regarding the most effective individual actions for climate mitigation. This demographic, active in consumption and decision-making within their households and communities, is crucial in the fight against climate change. However, they are less informed about high-impact solutions such as reducing food waste, which are known to only 11.11% of the population as effective measures.
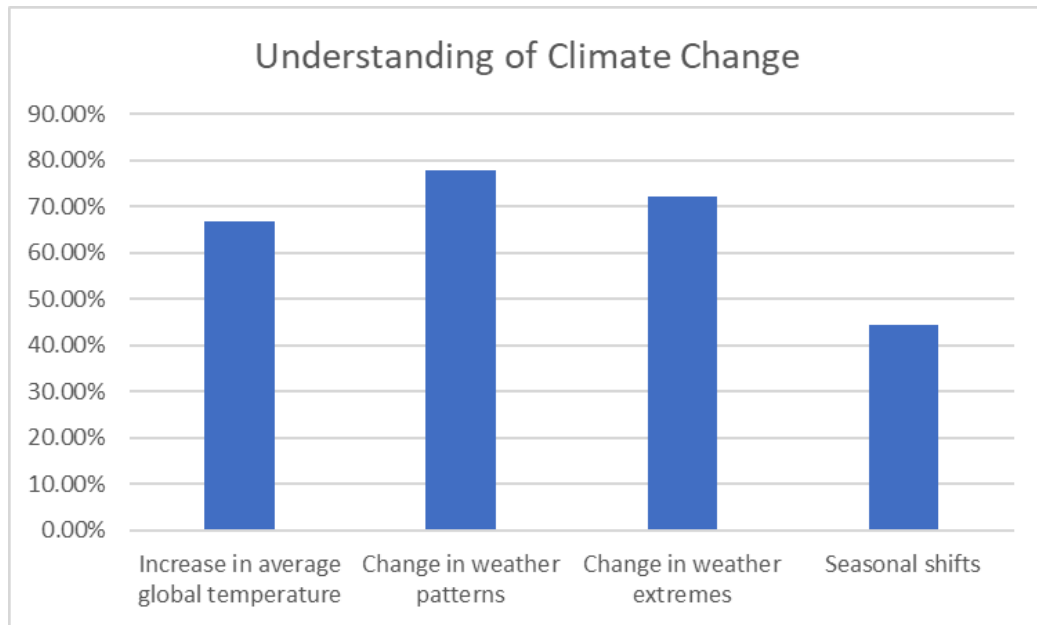
SustainECO started its mission to make people aware of the high impact solutions for climate change.

Scoping of the problem

We conducted user survey to know what people think about climate change and steps that can be taken to mitigate the impact of climate change
It is found that

- **Understanding of Climate Change:**

Understanding of Climate Change

- ❖ Most people recognize rising global temperatures as climate change (66.67%).
- ❖ A significant portion links weather variations and extreme weather events to climate change (77.78% and 72.22%, respectively).
- ❖ Awareness of seasonal shifts due to climate change is present, but not as strong (44.44%).

- ● **Awareness and Concern:**

Awareness and Concern
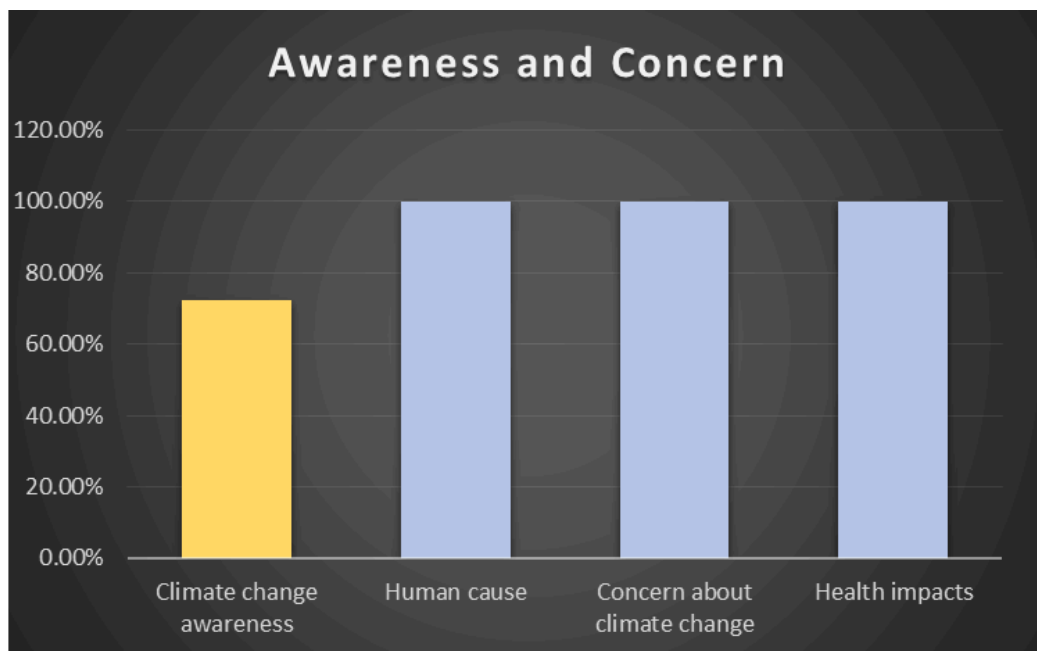
❖ A significant majority (72.22%) are aware of climate change.
❖ There's a unanimous belief that climate change is human-caused (100% rejecting a natural cycle).
❖ Everyone surveyed expressed concern about climate change (100%).
❖ All respondents believe climate change impacts health (100%).

● **Causes of Climate Change:**
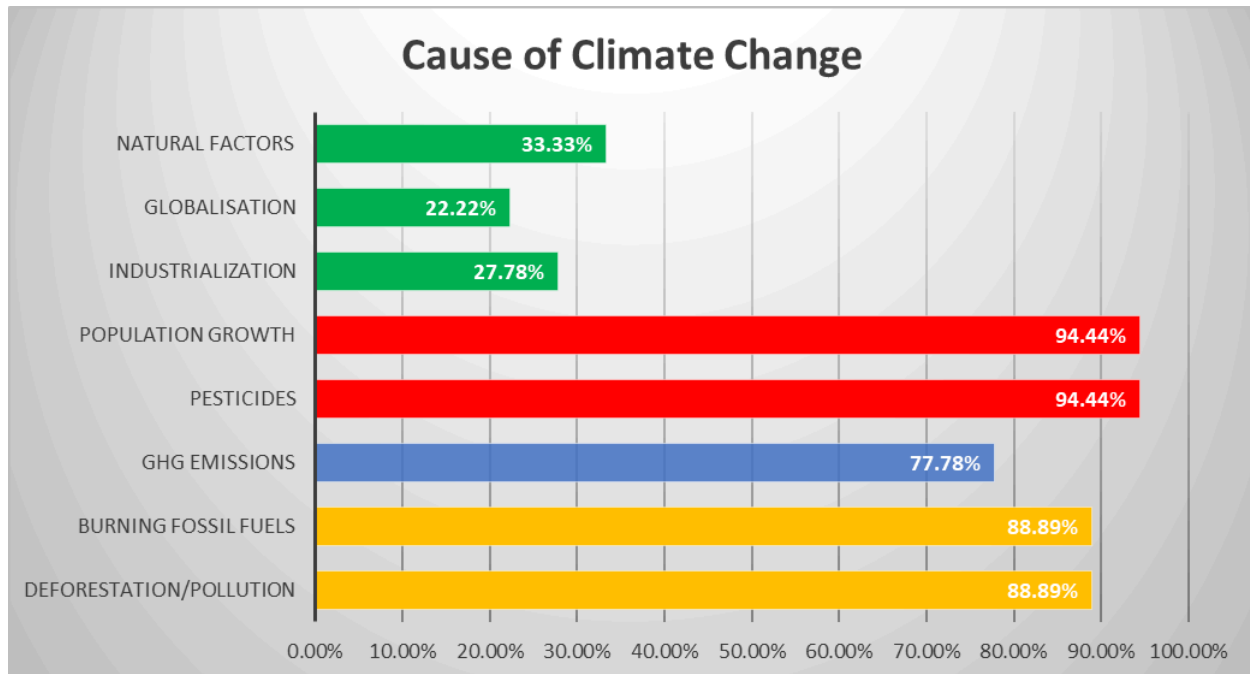
❖ Deforestation and pollution are seen as the top contributors (88.89% each).
❖ Burning fossil fuels and greenhouse gas emissions are also recognized as significant factors (88.89% and 77.78%, respectively).
❖ Population growth and pesticide use are viewed as additional contributors (94.44% each).
❖ Industrialization and globalization are considered less significant factors (27.78% and 22.22%, respectively)
❖ Natural factors are perceived as having a lesser impact (33.33%).

● **Solutions for Mitigation:**

Solutions for Mitigation
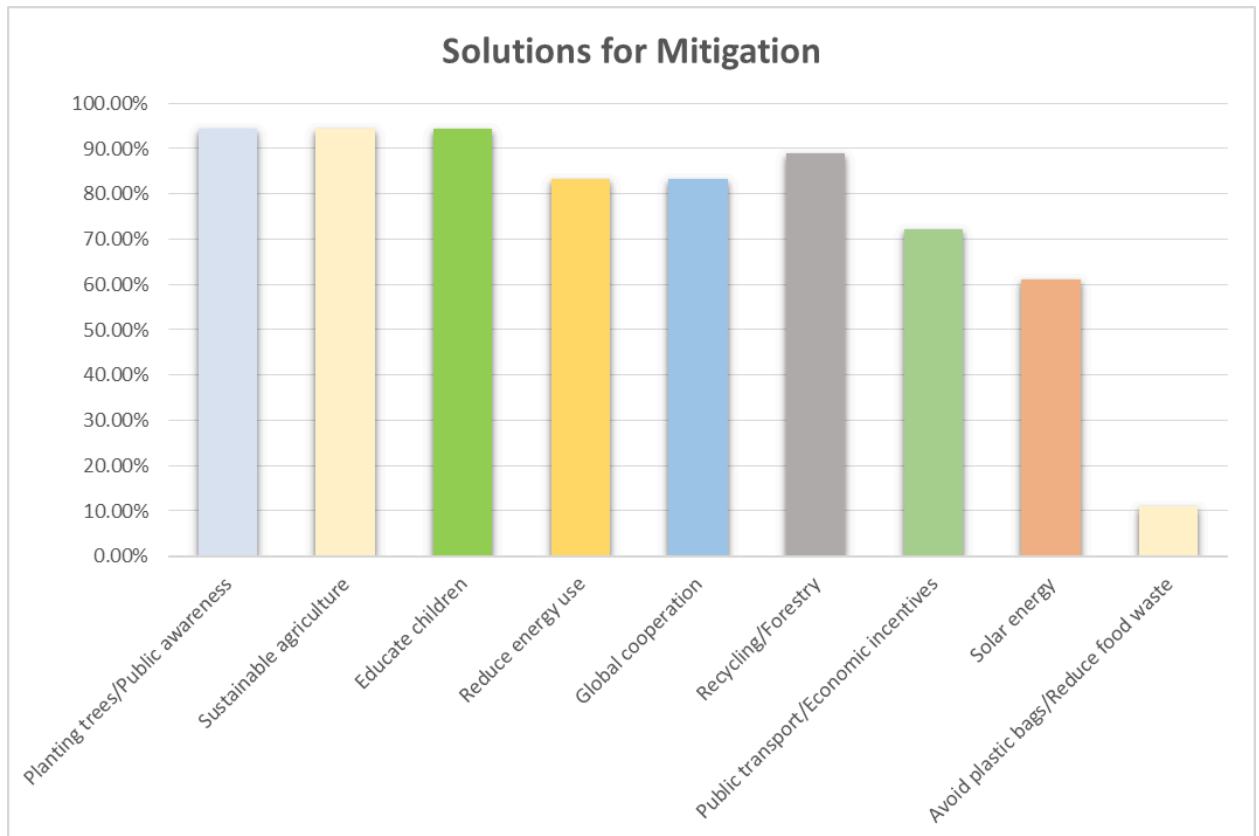
- ❖ Planting trees and public awareness are the most preferred solutions (94.44% each).
- ❖ Sustainable agriculture and educating children are seen as highly important (94.44% each).
- ❖ Reducing energy use and global cooperation are also viewed as crucial (83.33% each)
- ❖ Recycling and forestry are considered significant solutions (88.89% each).
- ❖ Public transport and economic incentives for eco-friendly choices receive strong support (72.22% each).

Despite widespread awareness of climate change, there is a significant knowledge gap among urban populations, particularly those aged 18-30, regarding the most effective individual actions for climate mitigation. This demographic, active in consumption and decision-making within their households and communities, is crucial in the fight against climate change. However, they are less informed about high-impact solutions like avoiding plastic bags and reducing food waste, which are known to only 11.11% of the population as effective measures.

- **Individual Actions:**
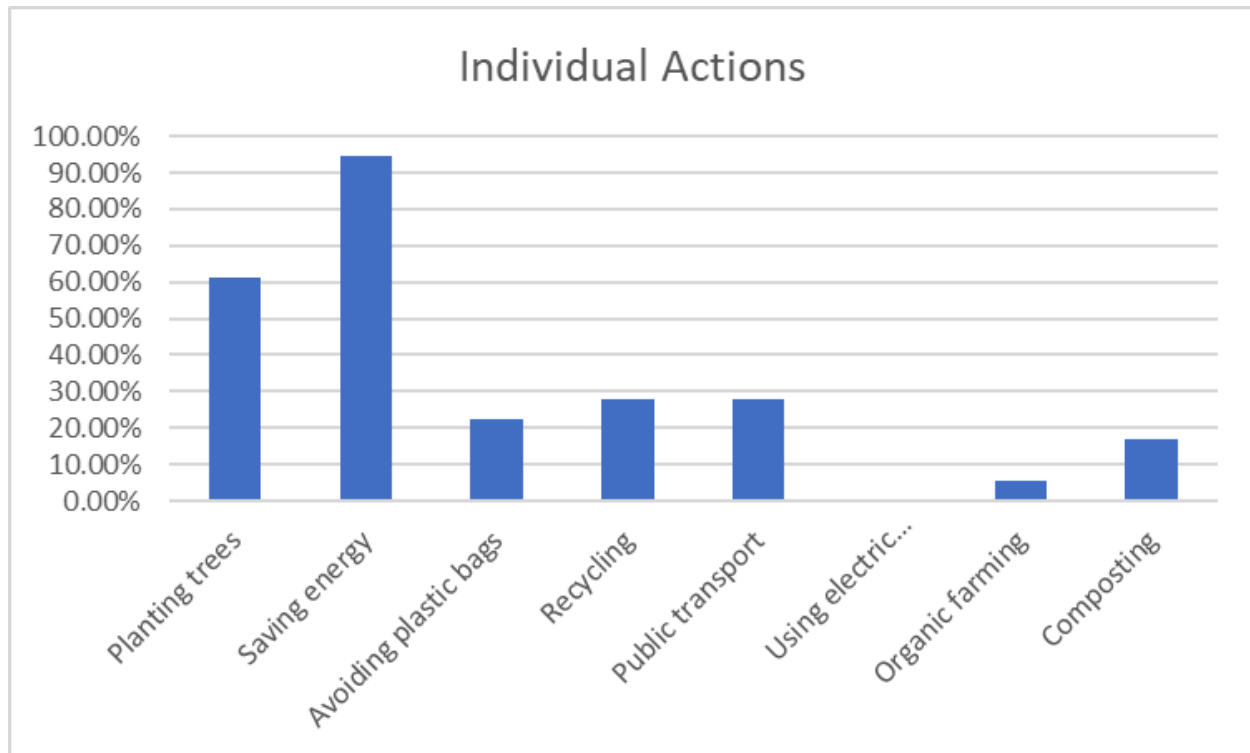
- ❖ Saving energy and planting trees are the most common individual actions (94.44% and 61.11%, respectively).
- ❖ Avoiding plastic bags and recycling are moderately common actions (22.22% and 27.78%, respectively)
- ❖ Using public transport, electric vehicles, and solar panels are less common actions (27.78%, 0%, and 0%, respectively).
- **Challenges:**
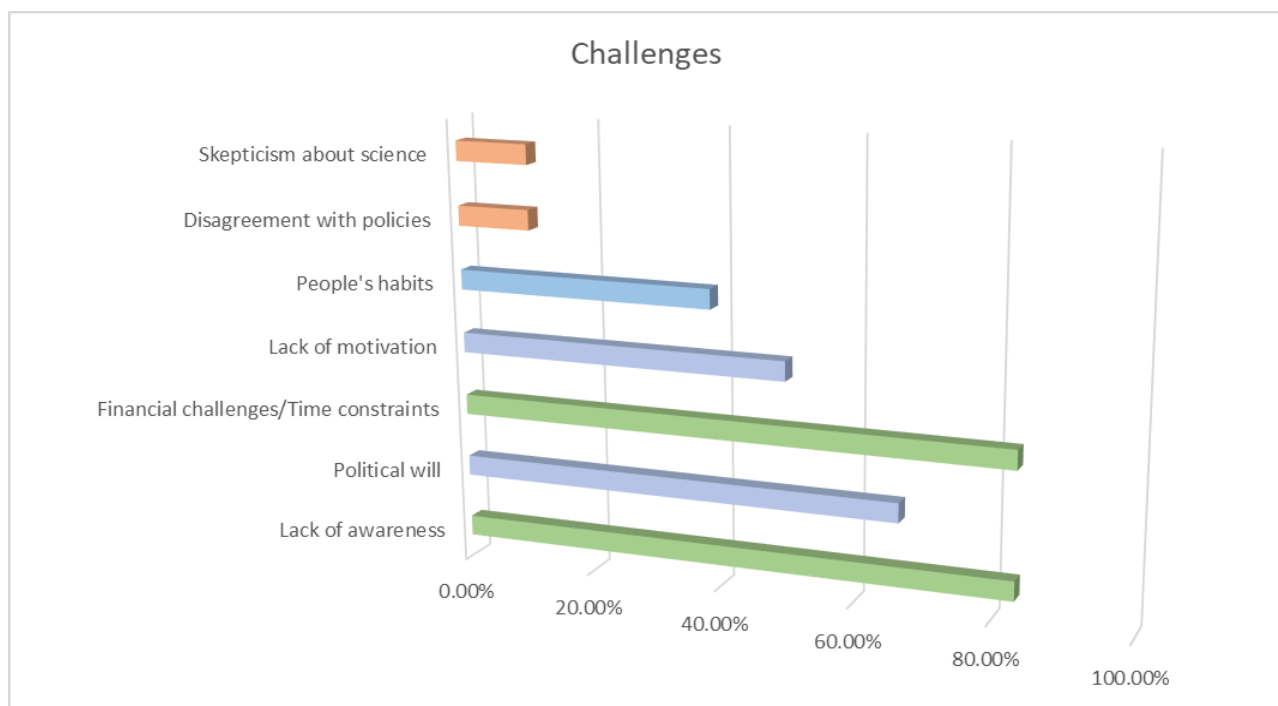
Challenges

❖ Lack of awareness and political will are seen as the biggest hurdles (83.33% and 66.67%, respectively).

❖ Financial challenges and time constraints are also significant deterrents (83.33% each)

❖ Lack of motivation and difficulty changing people's habits are additional challenges (50% and 38.89%, respectively).

● **Commitment and Expectations:**

Commitment and Expectations

❖ There's a strong focus on individual lifestyle changes and sustained efforts (83.33%).
❖ A significant portion is open to broader societal change (44.44%).
❖ The top expectations are regular tree planting with maintenance (83.33% each), followed by climate change awareness campaigns(77.78%) and a desire for cleaner air (66.67%).

● **Sources of Knowledge:**

Sources of Knowledge
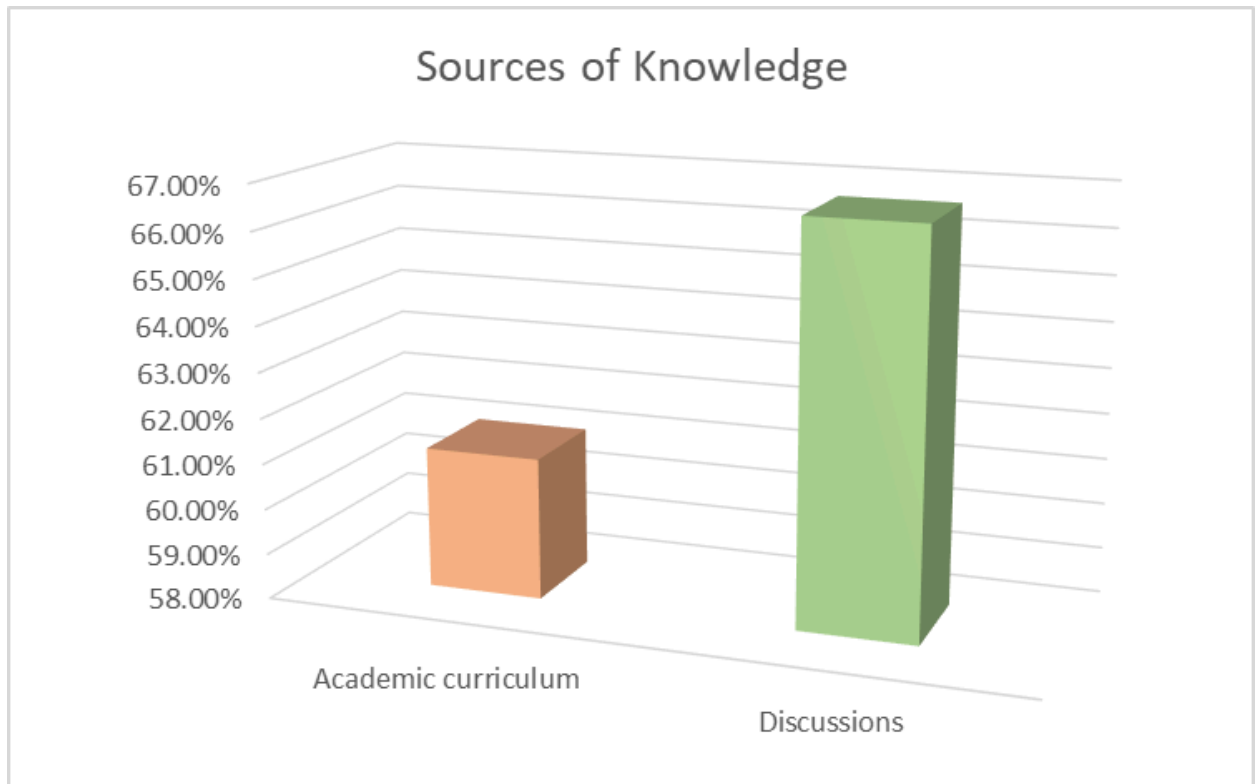
Academic curriculum and discussions are the primary sources of knowledge about climate change (61.11% and 66.67%, respectively).

Problem statement:

According to the UNEP's (United Nations Environment Programme) food wastage index report, 68.7 million tonnes of food is wasted annually in Indian homes, in simple words it is about 50 kgs per person. It stands 2nd worldwide in terms of household wastage of food only followed by China.

Food loss and waste contribute to approximately 8% of anthropogenic greenhouse gas emissions globally, which amounts to 4.4 gigatons of CO2e annually. This significant contribution to greenhouse gas emissions underscores the importance of addressing food waste to mitigate its impact on climate change as per the report "From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste"

Spreading awareness among people to reduce food waste to mitigate climate change.

To foster awareness about combating climate change, we aim to educate individuals on the importance of minimizing food waste. As an initial step, we plan to circulate impactful slogans in regional languages, recognizing their ability to resonate deeply with communities and inspire action.

For Food waste :

"खाना नहीं विसर्जित, भूखे को मिले विरासत।"
"Waste not, feed the hungry"
"Save food, save lives"
"Don't trash it, share it"

"खाना बचाओ, संसाधन बचाओ"
"Save food, save resources"

Circulating slogans to promote avoiding food waste and plastic usage in India can be done through various channels:

1. **Social Media Campaigns**:Launching hashtag campaigns on platforms like Twitter, Instagram, and Facebook to raise awareness and encourage people to share tips and success stories on reducing food waste and plastic usage.

2. **Educational Programs:** Collaborating with schools, colleges, and community centers to conduct workshops, seminars, and awareness programs on the importance of minimizing food waste and plastic usage.
3. **Mass Media**: Partnering with television channels, radio stations, and newspapers to run public service announcements, advertisements, and articles promoting the cause.

4. **Community Events**: Organizing rallies, marches, and cleanup drives in local communities to engage people directly and spread the message about reducing food waste and plastic consumption.

5. **Celebrity Endorsements**: Enlisting support from influential personalities and celebrities who can use their platforms to advocate for reducing food waste and plastic usage.

6. **Partnerships with Businesses:**Collaborating with supermarkets, restaurants, and food delivery services to promote initiatives like composting, recycling, and using biodegradable packaging.

7. **Government Initiatives**:Working with local and national government bodies to implement policies and regulations that incentivize reducing food waste and plastic usage, as well as funding campaigns and infrastructure improvements.

8. **Digital Marketing**: Utilizing targeted online advertising campaigns to reach specific demographics with messaging about reducing food waste and plastic usage.

By employing a multi-faceted approach across these channels, the slogans can effectively reach and resonate with people throughout India, encouraging them to take action in reducing food waste and plastic consumption.

Solutions to the problem statement

For avoiding food waste:
Delegate the task to a designated individual to gather food waste from households and charge a fee for this service. Interested individuals can apply to become food collection officers through our website. The collected food waste can then be repurposed by feeding animals or converting it into compost if it is no longer suitable for consumption.

Features of the Application:

1. Food Waste Collection Service: Users can delegate the task of gathering food waste from their households to designated individuals, who are registered as "food collectors" within the app.

2. Fee-Based Service: Food collectors charge a nominal fee for their service, which is facilitated through the app's secure payment system.

3. Online Application Process: Interested individuals can easily apply to become food collectors through the app's user-friendly interface. They can submit their credentials and qualifications directly through the platform.

4. Environmental Impact Tracking: The app provides users with insights into the environmental impact of their food waste reduction efforts. It tracks the amount of food waste collected and calculates the positive impact on reducing greenhouse gas emissions.

5. Product Recommendations: The app provides personalized recommendations for biodegradable alternatives based on user preferences and usage patterns.

6. Educational Resources: SustainECO offers educational resources and tips on reducing food waste and plastic usage, empowering users to make sustainable choices in their daily lives.

7. Community Engagement: Users can connect with like-minded individuals and share tips, success stories, and challenges related to reducing food waste and plastic usage through the app's community forums.

8. Integration with Local Initiatives: The app partners with local organizations and initiatives focused on sustainability to amplify impact and promote community involvement in waste reduction efforts.

9. Progress Tracking: Users can track their progress in reducing food waste over time, setting goals and milestones to strive towards a more sustainable lifestyle.

Overall, SustainECO serves as a comprehensive platform for individuals and communities to actively participate in reducing food waste, ultimately contributing to a healthier planet.

Workflow of the Application - Customer Side
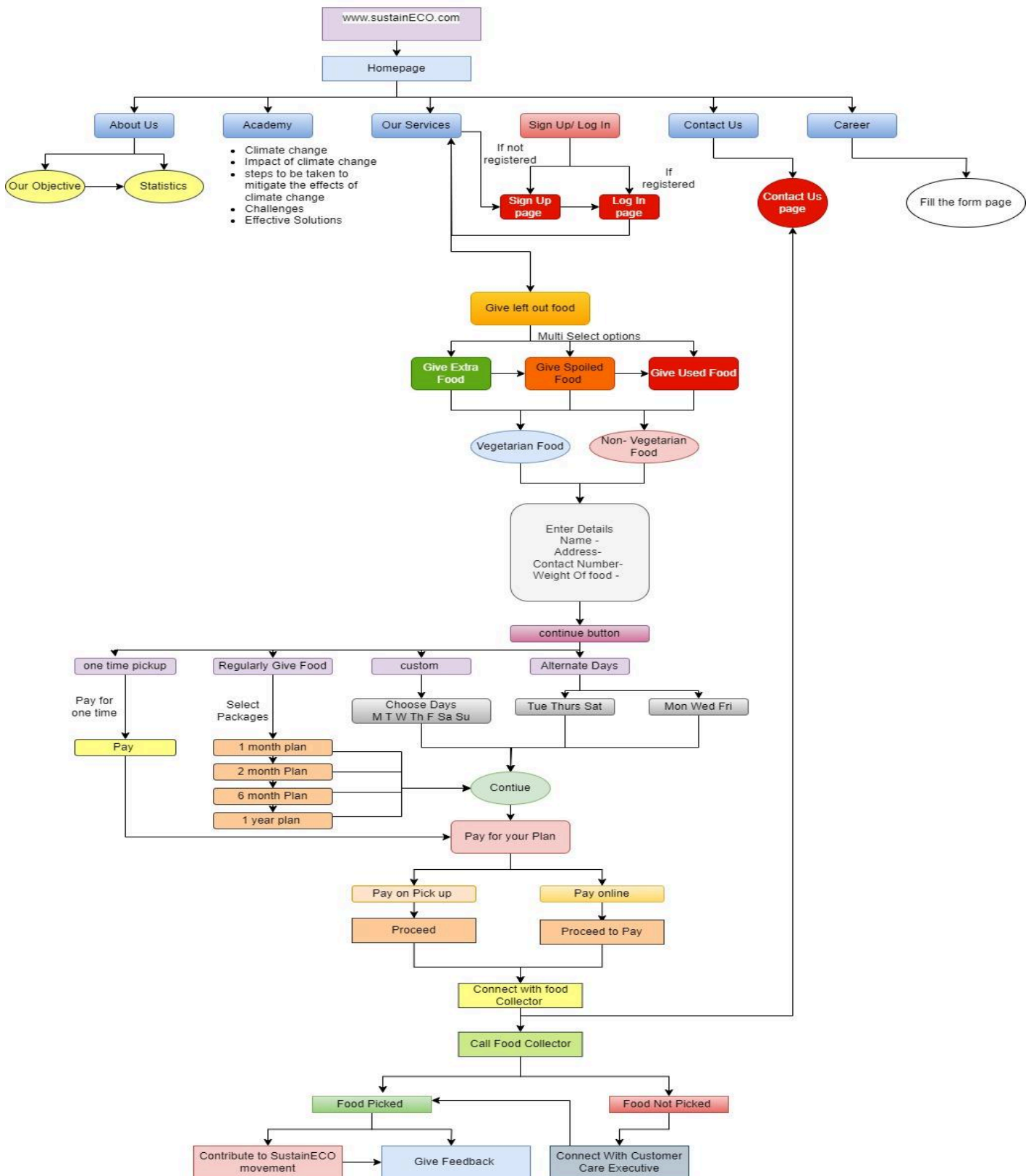
Workflow of the Application - Food Collector Side

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                        ┌──────────────┐
                        │ Career Page  │
                        └──────┬───────┘
              ┌────────────────┴────────────────┐
     ┌────────────────┐                   ┌──────────────┐
     │ Become Food    │                   │   Sign up    │◄────┐
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     └───────┬────────┘                          │             │
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     │ Enter Details  │                   │    Login     │     │
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│   Approval   │  │Acknowledge the │  │   Food Details     ││  │
│   pending    │  │     offer      │◄ │  Pickup Location   ││  │
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     ┌────────────────┐       Not paid          │   │       │  │
     │Upload Documents│                          │ Paid      │  │
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     ┌────────────────┐  │Collect       │        │    │   Food Not   │
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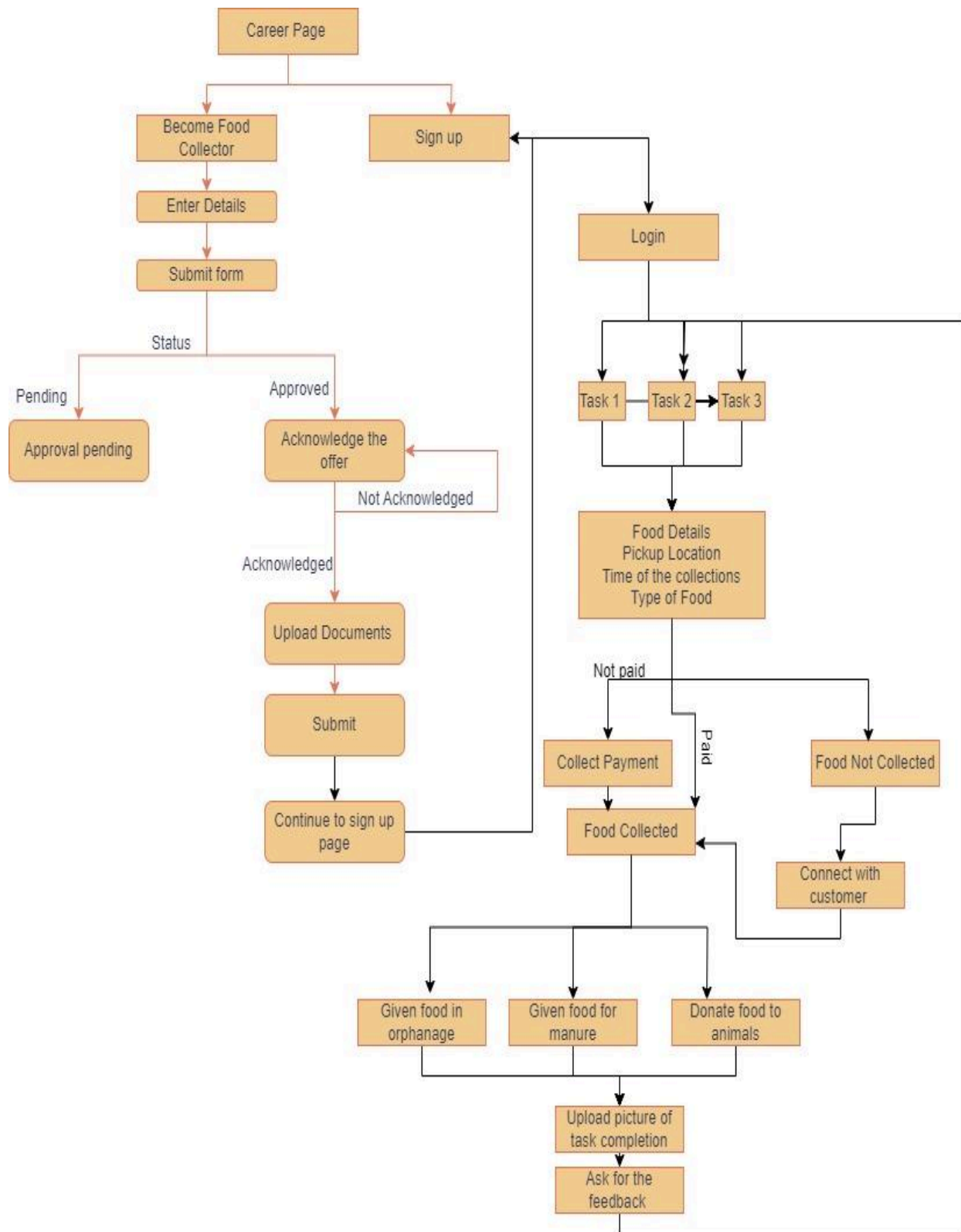
Given food in orphanage   Given food for manure   Donate food to animals

Upload picture of task completion

Ask for the feedback

Expected Outcomes:

- **Increased Awareness:** Elevate the understanding of food wastage as a key climate change issue.
- **Behavioral Shift**: Drive a significant reduction in household food waste through informed decision-making.
- **Community Engagement**: Foster a community-centric approach to food sustainability, promoting sharing and collective action.

Evaluation Metrics:

- **User Engagement**: Track app usage statistics and user retention rates.
- **Waste Reduction**: Measure the decrease in food waste by users over time.
- **Feedback Loops**: Collect user feedback for continuous improvement of the app's features and user experience.

The development of this app aims to bridge the knowledge gap and catalyze behavioral change, contributing to the global effort of climate change mitigation through the reduction of food wastage.