

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY



INNOVATION AND DESIGN THINKING

Presented to : Dr. Shuchi Agarwal



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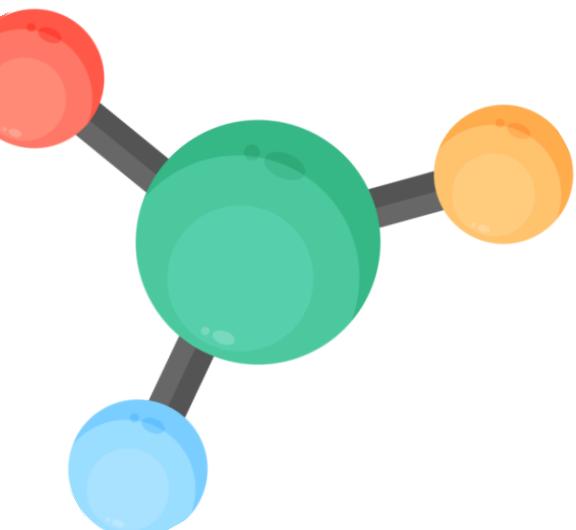
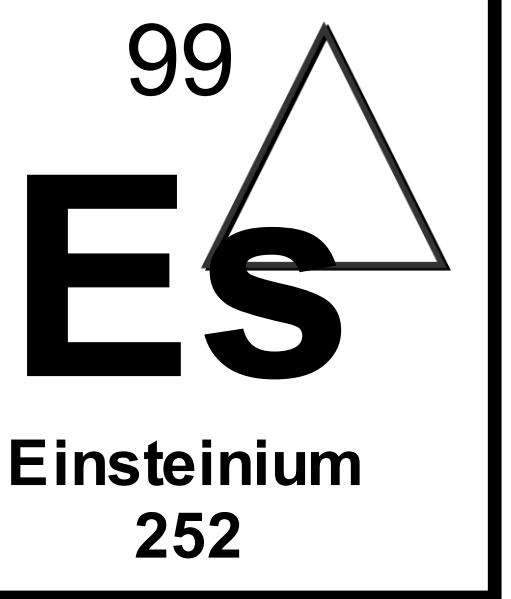


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CHEMICALS OF CONCERN



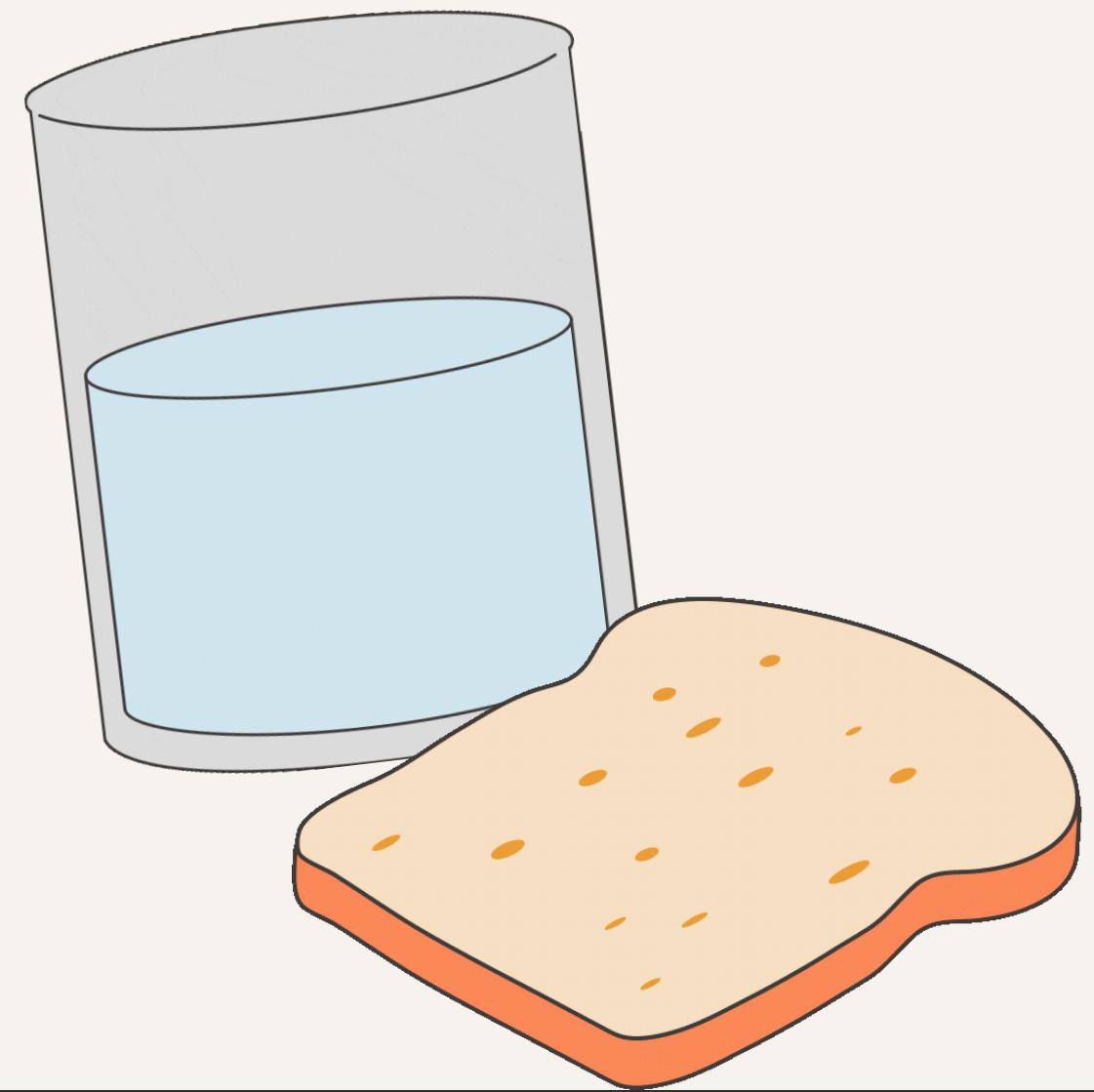
- Design Brief
- Ethnographic Research
- Brainstroming
- Mind Mapping
- Cluster Formation
- Assumption testing
- Prototype Listing

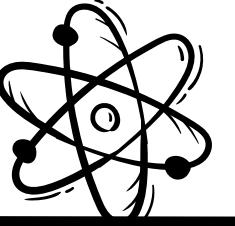


DESIGN BRIEF

HOW DO WE APPROACH PROBLEMS?

- PROJECT DESCRIPTION
- SCOPE
- CONSTRAINTS
- TARGET USER
- EXPLORATION QUESTIONS
- EXPECTED OUTCOMES
- SUCCESS METRICS

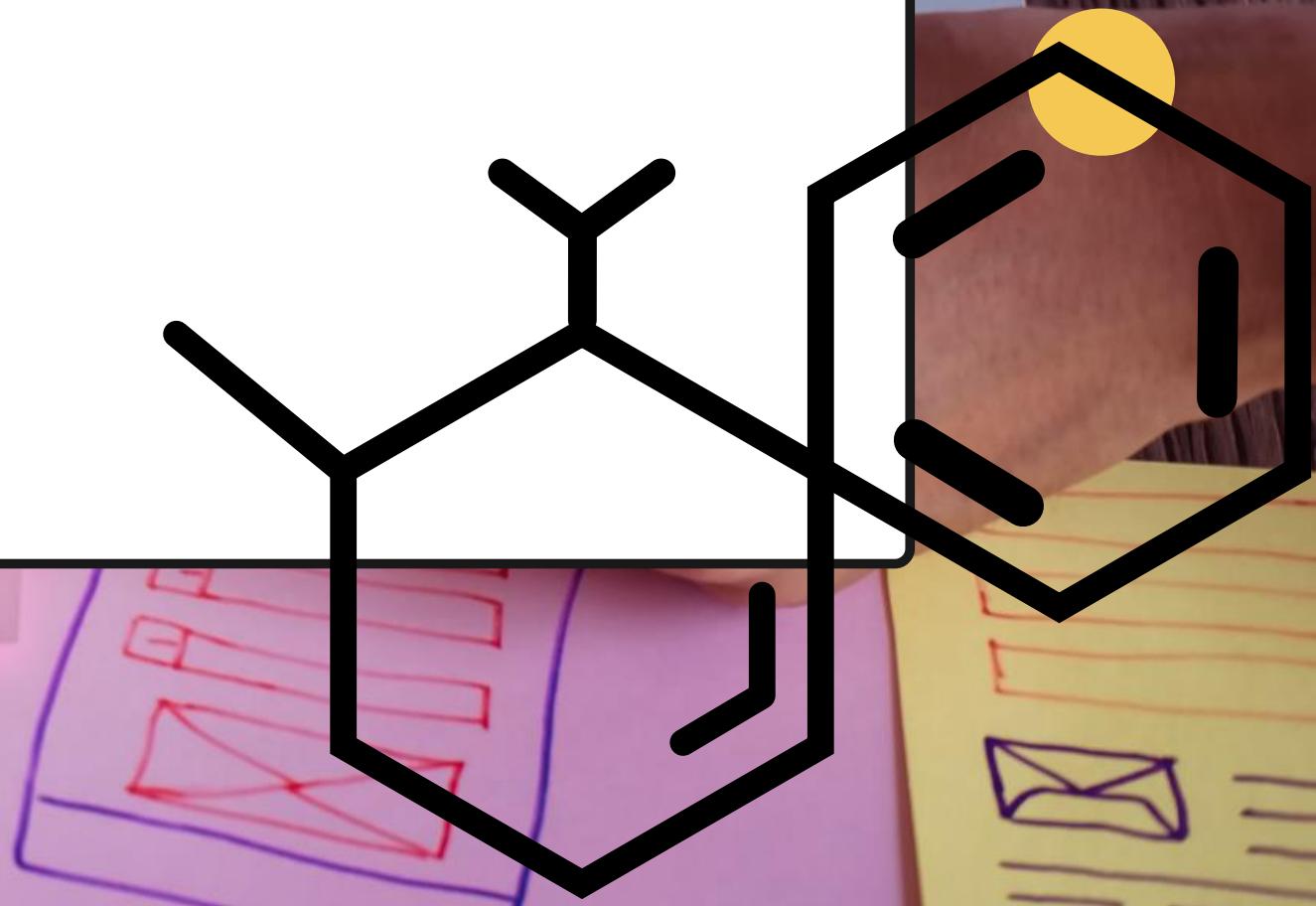




- In-Depth Investigation of Health and Environmental Application

- Aimed at Developing Innovative Solutions for Mitigation

- Improving the Quality of Life in Urban Residencies

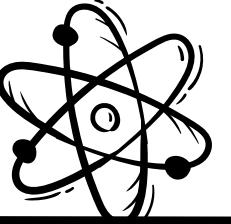


Holistic Impact of Chemicals of Concerns

- Investigating Health
- Environmental and Food Chain effects, with a focus on Food Industry
- Developing Integrated Strategies for Safer and Sustainable Urban Living



- Regulatory Hurdles
- Ethical Consideration
- Data Collection Challenges
- Resource Limitations
- Time Constraints
- Communication Barrier
- Changing Urban Dynamics



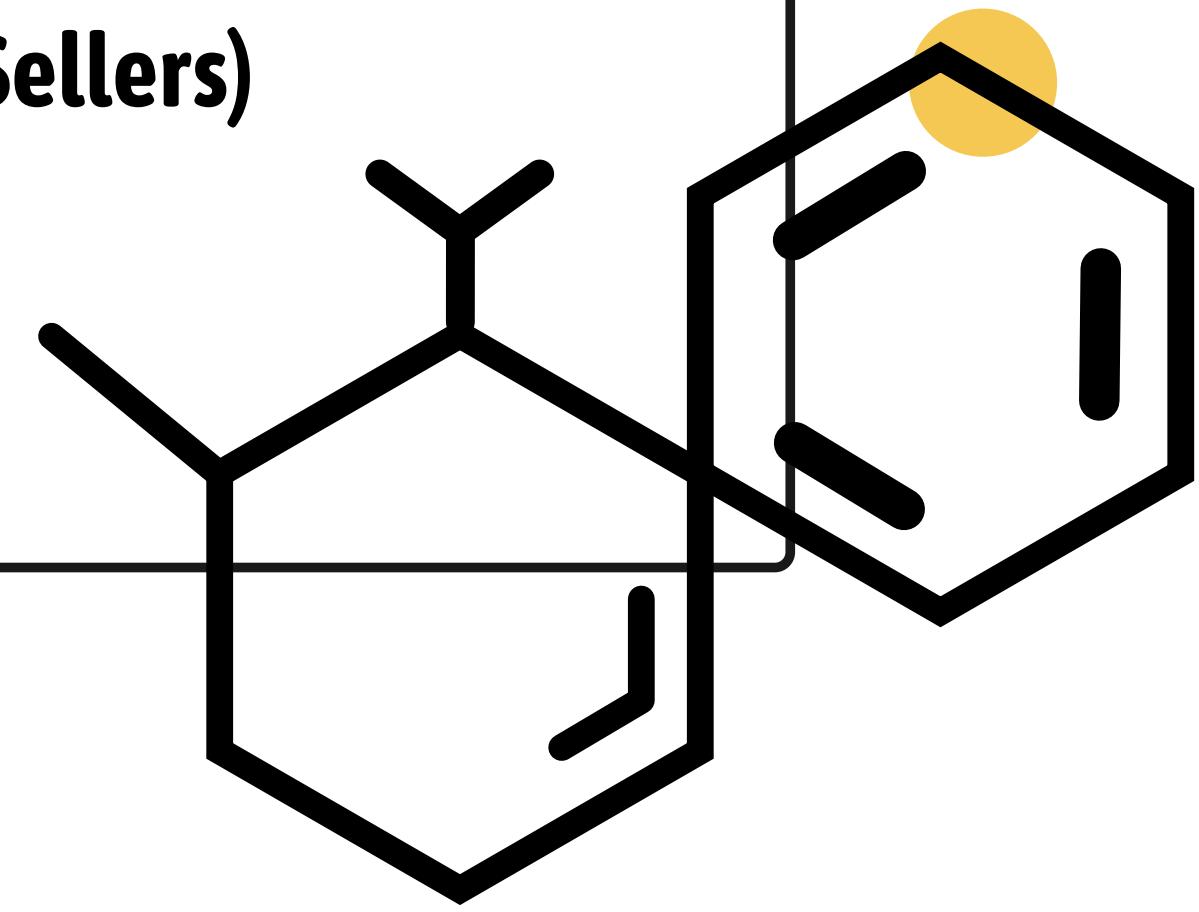
- **Urban Residents**



- **Working Professionals**

- **Environmental Experts**
- **Regulatory Authorities**

- **Intermediaries (Restaurant, Food Outlets, Street Food Sellers)**



Exploration Questions

- How often do urban residents consume packed food items (ready to serve) in their daily lives?

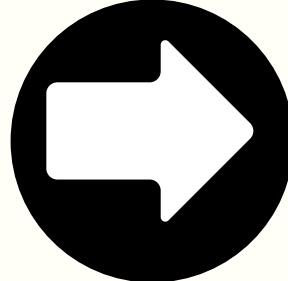
- How does chemicals of concern enter the urban food chain?
- How effective are current regulatory measures in safeguarding public health?

- What are the primary sources of chemical exposure related to food items for individuals working in urban environment?
- What role does food industry play in contributing or mitigating chemical exposure?
- To what extent are urban residents aware of the chemicals of concern in their food?

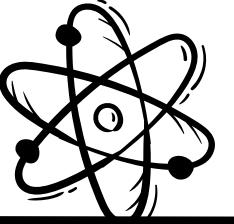
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Expected Outcomes

- 01** Clear mapping of how these chemicals enter the urban food chain with the focus on the role played by the food industry.
- 02** By identifying the sources of contamination ,the levels of harmful chemicals in the food chain could decrease, leading to a lower risk of health effects for urban residents.
- 03** Clear understanding of the specific chemicals posing risks in urban environments in terms of health. Insight into the health implications of exposure to chemicals of concern.



Increased public awareness and education regarding chemicals of concern- to foster informed decision-making and responsible dietary consumption.



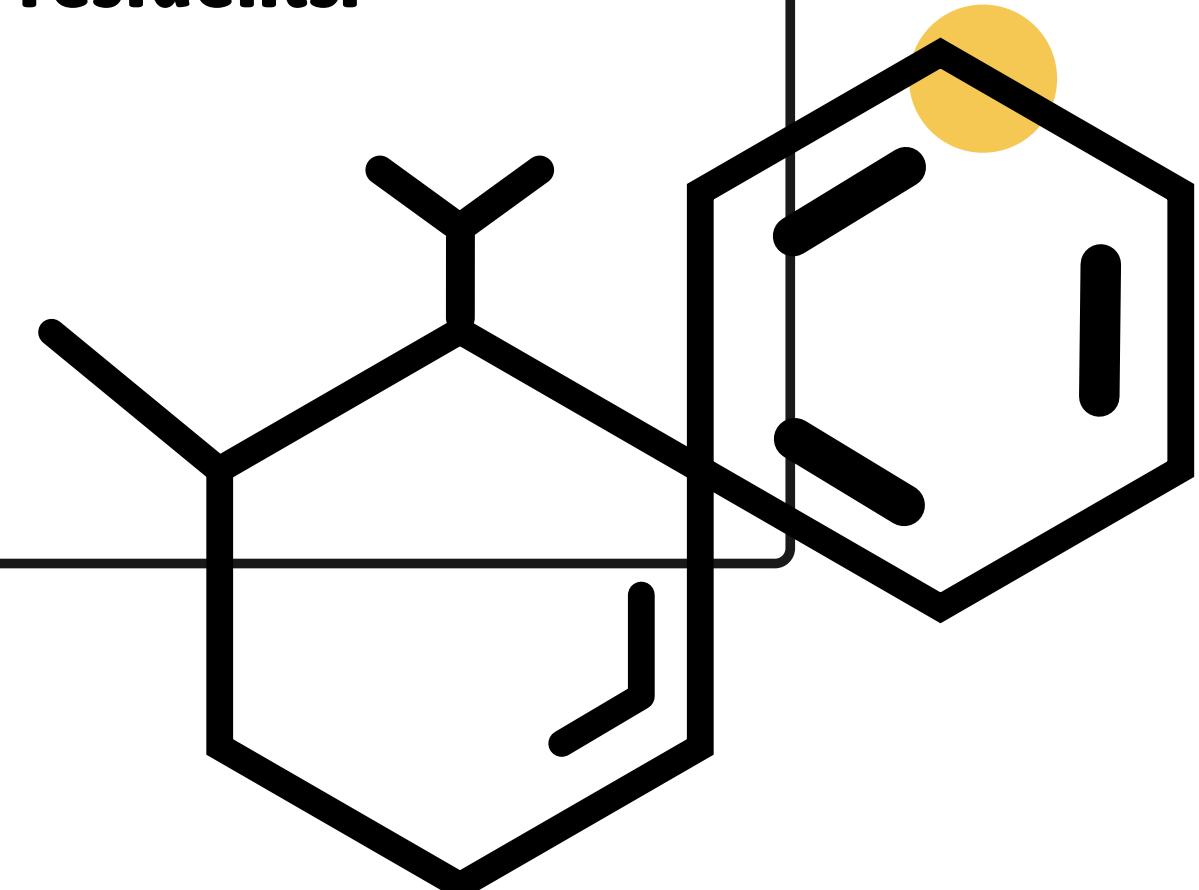
- **Reduction in Exposure Levels**



- **Health improvement indicators- reduction in health conditions associated with chemical exposure.**

- **Monitor the adoption of innovative strategies and the technologies proposed in the research.**

- **Observe changes in the behavioural patterns and dietary habits among urban residents.**



ETHNOGRAPHIC RESEARCH

- Ethnographic research is a qualitative research method for collecting data often used in the social and behavioural sciences.
- Ethnography is the study of people in their own environment through the use of methods such as participant observation and face-to-face interviewing.

PERSON 2

As a corporate professional, I do try to be mindful of the food I consume, but my priorities may not always align with those of a fitness enthusiast. Convenience often plays a significant role in my food choices, especially during busy workdays.

PERSON 3

Being a corporate professional and fitness freak, I am too occupied but still I am very concerned and specific about the food items I consume, and I do give proper attention to food items I consume.

PERSON 4

: As a corporate professional and a married person, I pay due attention to the food choices I make and usually prefer a healthy lifestyle

PERSON 1

As a fitness enthusiast, I'm indeed concerned about the food I consume.

PERSON 6

I am conscious of the food I consume. As a health-conscious individual, I pay attention to the quality, ingredients, and nutritional value of the foods I include in my diet..

PERSON 5

Being a corporate professional and a bachelor as well, generally I don't have enough time to pay detailed attention to food items I consume but still I try to be specific about my diet as much as possible and accordingly make my food choices.

Are you really concerned about the food products you consume?

PERSON 6

Generally, I go through the ingredients to the potential allergens and dietary restrictions.

PERSON 5

Very often so as to know what's their in the food and to make an informed and good choice.

PERSON 1

Most of the times I check for the ingredient list of the product I am purchasing

How often do you go through the ingredients list?

PERSON 2

I may glance at the ingredients list occasionally, it's not always a top priority.

PERSON 3

I usually go through the ingredients list and the thing I consider most is the manufacturing and expiry date.

PERSON 4

Very often because anything that I eat should include less fat, less calories, high nutritional intake, no chemicals or preservatives. So usually I take care of all these things.

PERSON 2

I mostly prefer eating less preserved and homemade food but sometimes having no other option I have to eat packed food main reason behind which is mostly time constraint or whenever I travel.

PERSON 3

As being in an office job for long hours and living far away from home, it is very convenient for me to go behind the packed food items.

PERSON 4

Busy lifestyle as a working professional in Mumbai often leads us to rely on packed foods. Convenience and timesaving are the primary reasons. However, i strive to strike a balance by incorporating fresh, home-cooked meals whenever possible.

PERSON 1

Time constraints often lead me to opt for packaged foods or dining out for convenience.

PERSON 6

Sometimes I eat packed food due to the laziness and untimely food cravings and also due to unavailability of a cook at home.

PERSON 5

The reason would be convenience, and ease of preparation. Also its a quick and accessible option in today's busy lifestyles as I myself being a corporate employee and a bachelor as well really have time constraints

What's the main reason behind eating packed foods?

PERSON 2

I'm aware that packaged foods may contain additives and preservatives, but I may not always fully understand their potential health effects. Common chemicals of concern like artificial preservatives and flavor enhancers are vaguely familiar

PERSON 4

Common chemicals of concern I am aware of include artificial preservatives, colorings and flavor enhancers. For example, some may have links to allergic reactions or adverse effects on health. It's crucial to be aware of additives like MSG, high-fructose corn syrup and artificial sweeteners as excessive consumption may have health implications.

PERSON 6

no, not a lot about it, but heard it in ads.

Are you aware of some common chemicals of concern found in packed food items and what are their potential health effects?

PERSON 1

Common chemicals of concern in packaged foods include artificial preservatives like BHA and BHT, artificial sweeteners like aspartame, and flavor enhancers like MSG. These chemicals can have various health effects, including potential carcinogenicity, obesity, high blood pressure

PERSON 3

I'm aware of a few common chemicals of concern like artificial preservatives, artificial food colour, palm oil and flavour enhancers but a deep knowledge regarding is what I lack.

PERSON 5

: Yes, I am aware of common chemicals found in packaged foods:

- Artificial Sweeteners
- Trans Fats:
- MSG (Monosodium Glutamate):

BRAINSTORMING

Awareness Generation

Conducting continuous surveys regarding a healthy lifestyle and importance of organic foods

Organizing workshops on a regular basis such as weekly or monthly.

Seek opportunities to feature the product in relevant media outlets.

Hosting educational webinars to educate about the dangers of chemicals in food and advantage of organic food

Collaboration with influencers and health advocate who can share their experience

Participation in health expos or fairs to showcase organic products

Targeted social media campaigns

Storytelling and partnerships

Engaging activities, Interactive quizzes and surveys



Health and Supply Chain

Price and Quality

Promotion of Organic Food

collaborative supplier platform (where suppliers, farmers and distributors can share information on best practices)

Making people aware of its health benefits.

Certification standards for organic products

Optimized inventory Management and increase in no of inventories/ stores

Focus on improved nutritional value , enhanced immune system

organizing community workshops, local workshops to educate about health benefits

supplier certification database - consolidate info on certified suppliers (providing authenticity and credibility and reliable source)

reduce health risks , long term health benefits

Implementing sustainable farming practices can enhance food quality and reduce reliance on packed foods having harmful chemicals

Implementing and enforcing strict regulations on chemical usage in package foods can help ensure food safety and quality.

By improving the supply chain of the organic food their prices can be reduced

working on the affordability of organic food

Clear labelling of food products regarding their production methods and chemicals residues can help consumers make informed choices and adopt safer practices.

Offer discounts ,coupons or loyalty programs to make organic food more affordable and competitive with packaged food options.

Investing in research and development of alternative farming techniques can improve yields, minimize chemical usage and ultimately reduce costs.

work closely with the suppliers to ensure they adhere to strict standards for packaging materials avoiding harmful chemicals.

Educating consumers about the difference in quality and health benefits of organic food as compared to packed food.

Promotion and Marketing Strategy

Promotion through online or digital media to cover wider reach .

conduct various workshops and campaigns to create awareness regarding healthy lifestyle and organic food.

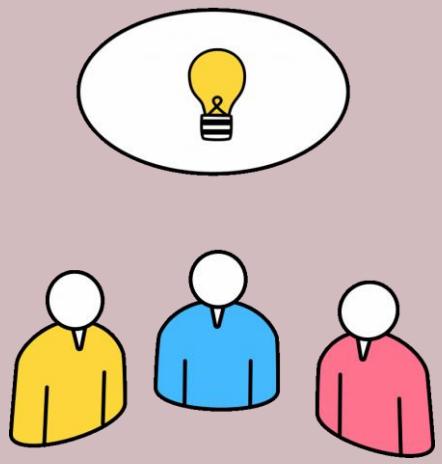
offering free samples to the customers .

offer products on discounted rates on special occasions .

collaborate with health food stores ,farmers markets, and chefs promoting organic and healthy food .



take continuous feedback from the customers post sales for retention of the customers .



Regulation and Collaboration

mandatory labelling on food products so as to empower consumers to make informed choices

implement government sponsored educational campaigns to inform public about the risks associated with chemicals of concern

regular monitoring and penalties for non-compliance

establishing and enforcing stringent certification standards for organic products

strict regulation for pesticides and agro chemicals usage (limiting usage to safer level)

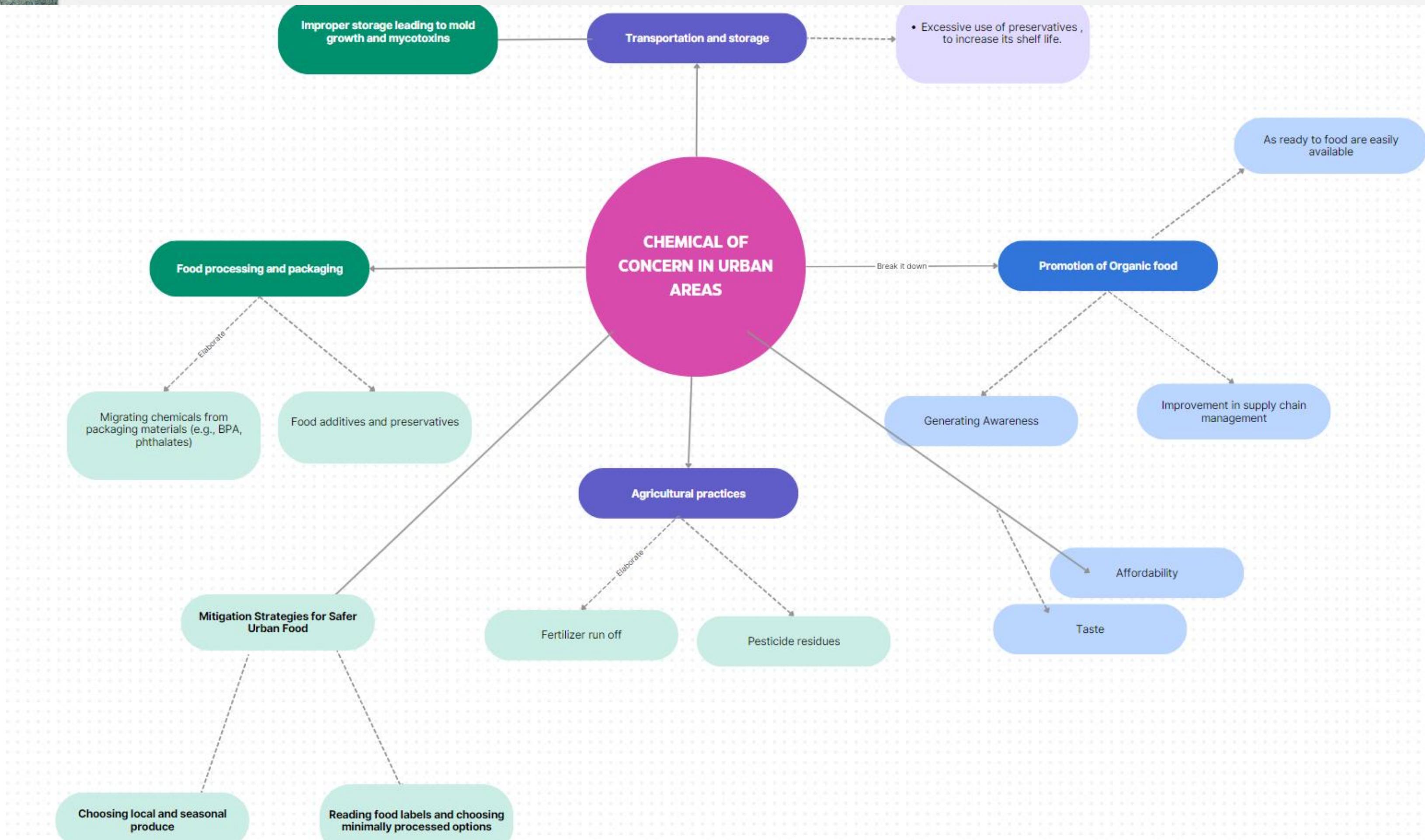
incentives for organic farming (financial incentives - subsidies, tax benefits and grants to encourage)

Informed consent regulations

Administer the import and export of certain hazardous chemicals.

Obligations on companies who wish to export these chemicals.

MIND MAPPING



CLUSTER FORMATION

Group 2

Add your ideas to either existing cluster

PROMOTION

```

graph LR
    A[SPREADING PRODUCT AWARENESS] --> B1[Educating consumers about the difference in quality and health benefits of organic food as compared to packed food.]
    A --> B2[Promotion through online or digital media to cover wider reach.]
    A --> B3[conduct various workshops and campaigns to create awareness regarding healthy lifestyle and organic food.]
    A --> B4[take continuous feedback from the customers post sales for retention of the customers.]
  
```

PRICING

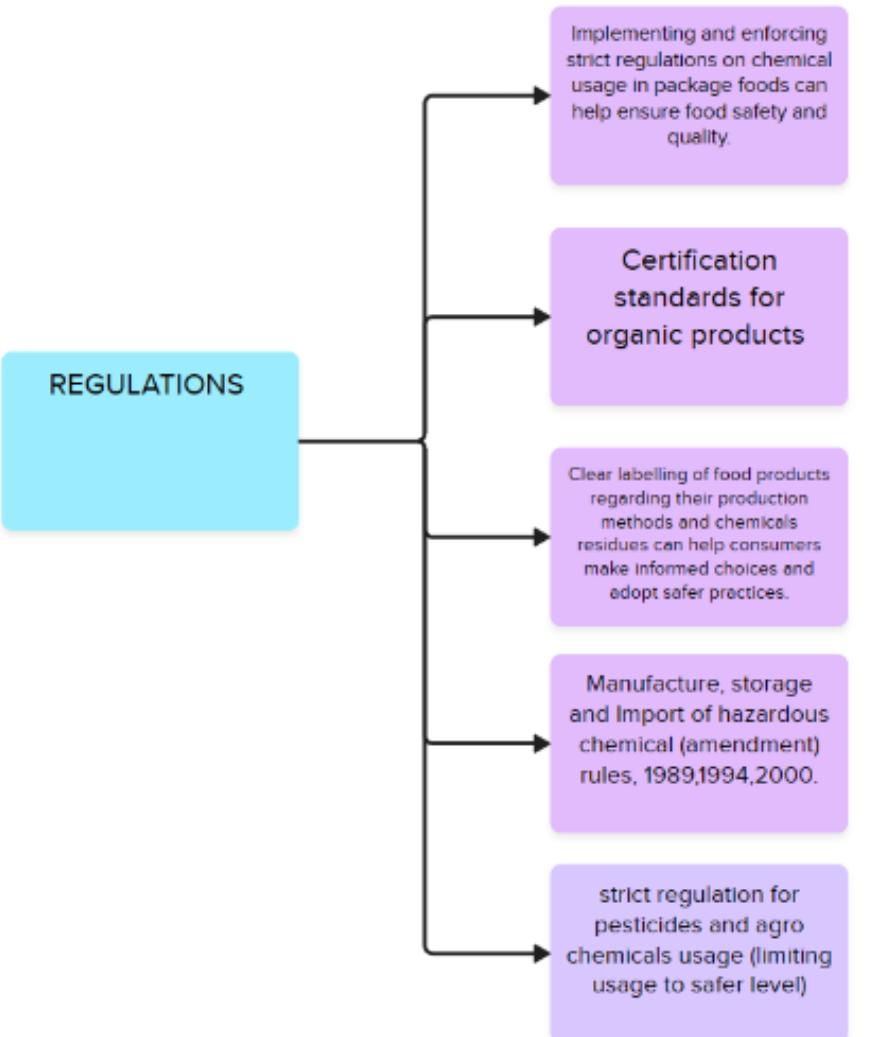
```

graph LR
    C[MAINTAINING THE COST EFFICIENCY] --> D1[working on the affordability of organic food]
    C --> D2[Promote consumption of locally grown organic produce to reduce transportation cost and thus reduce prices.]
    C --> D3[By Improving the supply chain of the organic food their prices can be reduced]
    C --> D4[Streamline the supply chain of organic food, minimizing waste and overhead expenses to reduce the overall cost of production]
  
```

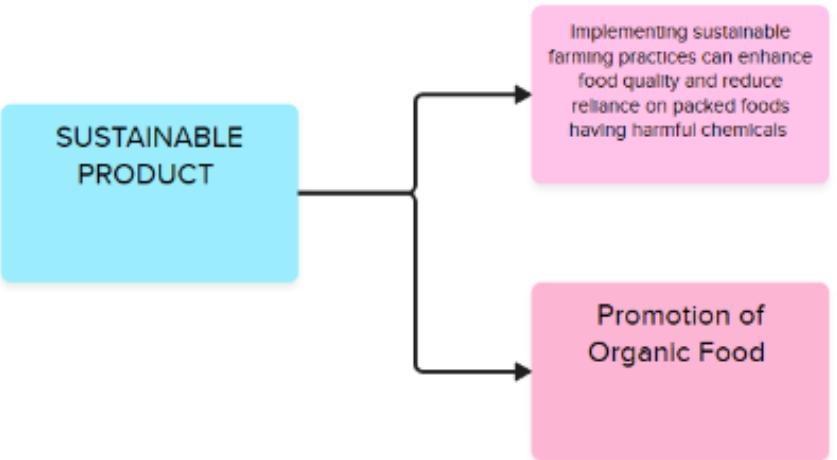
Icons on the left:

- G
- F
- T
- Q
- Llama
- Image
- Scalpel
- Bar chart
- Pencil
- Box
- ...

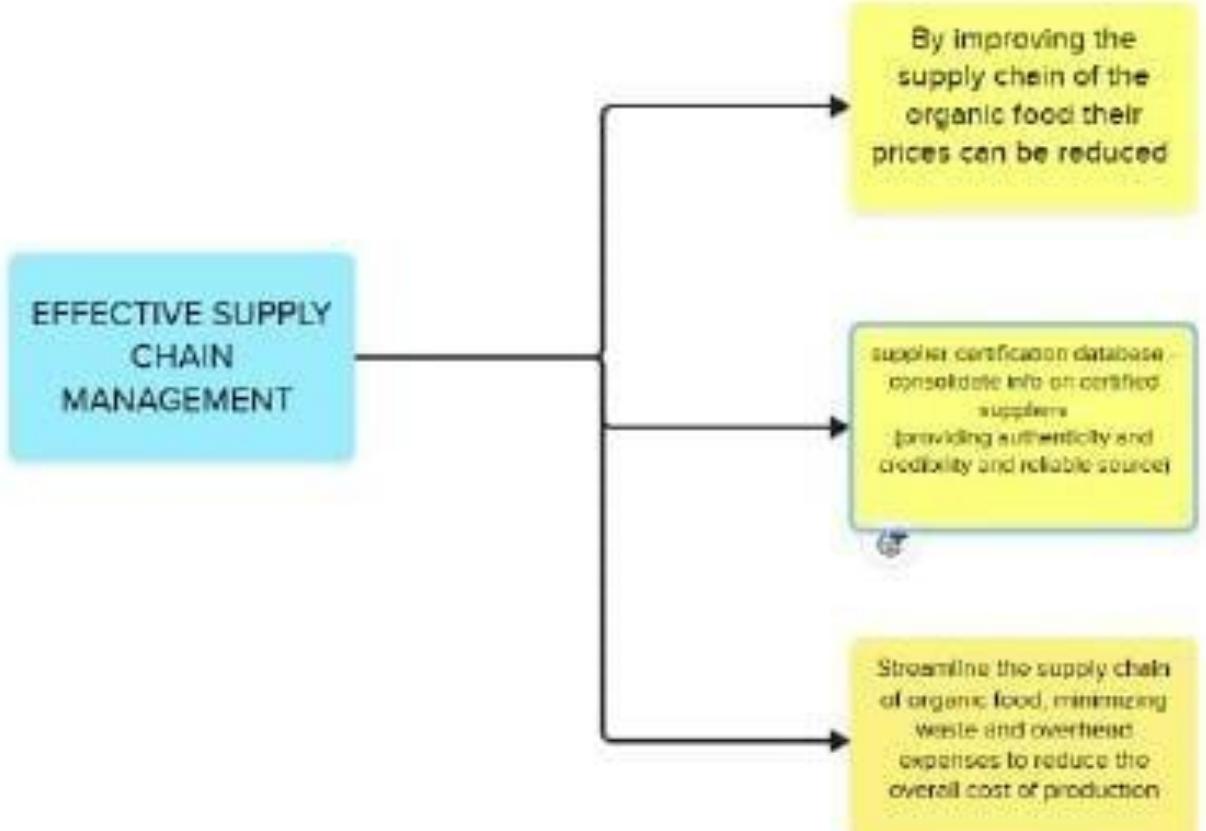
REGULATORY ASPECTS



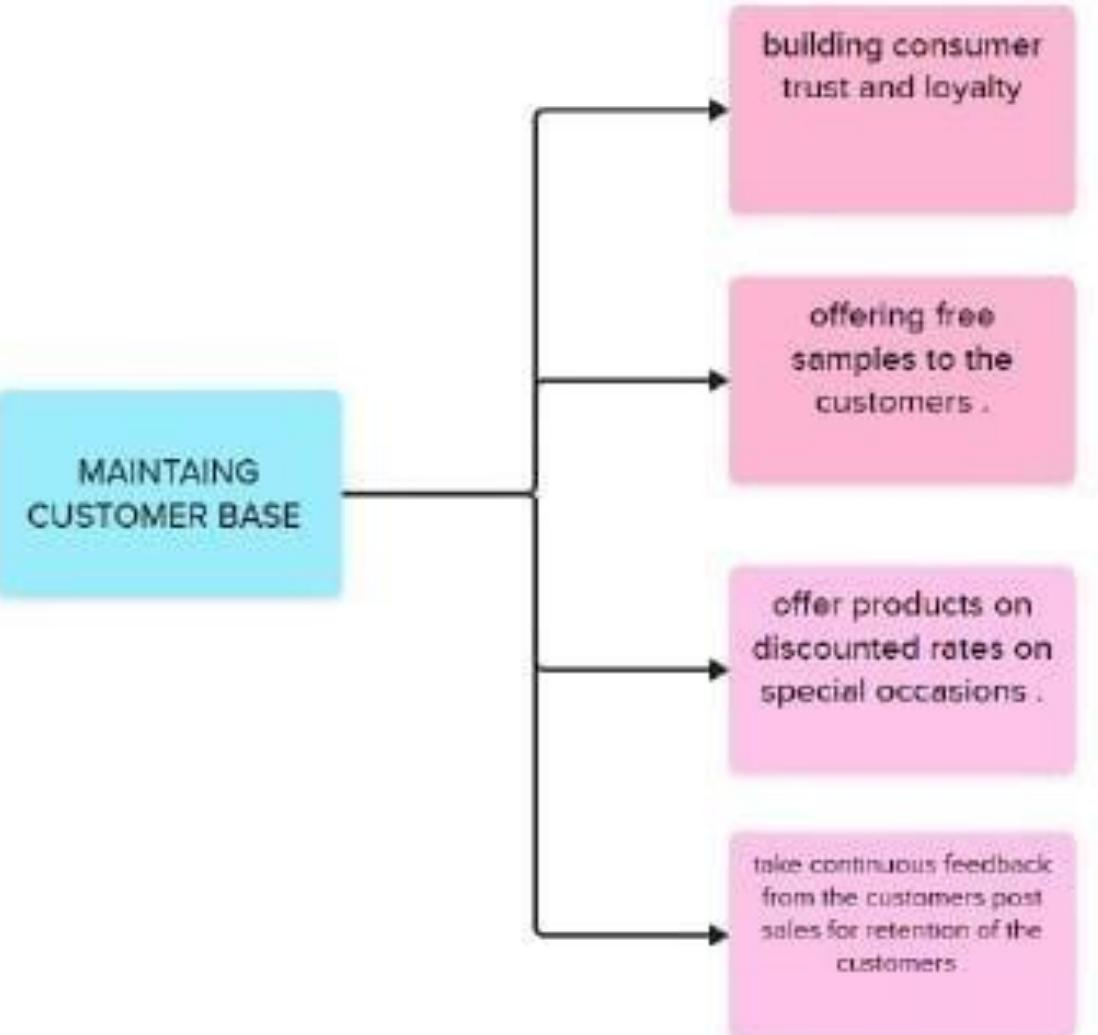
SUSTAINABILITY



SUPPLY CHAIN MANA...



CUSTOMER RETENTI...



Assumptions Testing

- Clean and intuitive interface with easy navigation.
- Users are interested in personalized recommendations based on their dietary preferences and restrictions.
- Users value transparent information about the sourcing and certification of organic products.
- It makes easy to find local and seasonal organic produce.
- secure and convenient payment options for purchasing organic groceries through the app.



PROTOTYPE

The image shows a Figma prototype interface with four mobile screen designs for an organic food application:

- iPhone 13 & 14 - 1:** A pink landing page featuring a white shopping cart icon inside a circle and the text "ORGANIC BASKET" in bold black and red.
- iPhone 13 & 14 - 4:** An introductory screen with a bowl of colorful fruit and vegetables, the text "Enjoy your food but without harmful chemicals", and a "Get Started" button.
- iPhone 13 & 14 - 2:** A user profile screen titled "Hello user" with a search bar, a "Promotions" section offering 25% off on orders above ₹ 500, and a "Popular" section showing items like Cherry Tomato vegetables and Raspberry fruits.
- iPhone 13 & 14 - 5:** A "Categories" screen with a "VIEW ALL ITEMS" button and a list of categories: Vegetables, Fruits, Cereals, Drinks / Juices, Vegan salads, Cheese, Eggs & dairy, Lentils, Packed foods, and Baked Products.

The Figma interface includes a left sidebar with layer and asset lists, a top navigation bar with various icons, and a right sidebar for design and prototype settings.

<https://www.figma.com/file/tOnXSKthGszXGqB272Xocx/Untitled?type=design&node-id=0%3A1&mode=design&t=eMzJhiEL8pofH83E-1>

Untitled

Share

Design Prototype

F5F5F5 100%

Local variables

Local styles

Export

?

Layers Assets Page 1

iPhone 13 & 14 - 21

iPhone 13 & 14 - 20

iPhone 13 & 14 - 19

iPhone 13 & 14 - 18

iPhone 13 & 14 - 17

iPhone 13 & 14 - 16

iPhone 13 & 14 - 15

iPhone 13 & 14 - 14

iPhone 13 & 14 - 13

iPhone 13 & 14 - 12

iPhone 13 & 14 - 10

iPhone 13 & 14 - 9

iPhone 13 & 14 - 8

iPhone 13 & 14 - 6

iPhone 13 & 14 - 7

iPhone 13 & 14 - 6

iPhone 13 & 14 - 3

iPhone 13 & 14 - 6

iPhone 13 & 14 - 7

iPhone 13 & 14 - 13

Product Details

Green Harmony Delight

Vegan salads

For a refreshing organic vegetable salad consisting a mix of leafy greens like spinach and kale, along with cherry tomatoes, cucumber, bell peppers, carrots, and avocado. Some extra flavor with herbs like basil or cilantro and a toss with a simple vinaigrette made from olive oil and balsamic vinegar.

Ingredients

Know the ingredients of the food you are eating by scanning the QR code given below.

QR codes

ADD TO CART

Product Specification

Green Harmony Delight

Vegan salads

Pure Harvest Bliss

Dairy

ingredients in yogurt typically include organic milk, live active cultures (probiotics), and some organic sweeteners or flavorings. Organic yogurt prioritizes natural and pesticide-free ingredients in its production.

Ingredients

Know the ingredients of the food you are eating by scanning the QR code given below.

QR codes

ADD TO CART

Product Details

Pure Harvest Bliss

Dairy

Earth Kissed Eats

500g

4.8

Ingredients

Know the ingredients of the food you are eating by scanning the QR code given below.

QR codes

iPhone 13 & 14 - 7

< Product Specification

Pure Harvest Bliss
Dairy

Ingredients in Yogurt typically include organic milk, live active cultures (probiotics), and some organic sweeteners or flavorings. Organic yogurt prioritizes natural and pesticide-free ingredients in its production.

ADD TO CART

Home List Heart Cart (0) Profile

iPhone 13 & 14 - 13

< Product Details

Earth Kissed Eats
Baked products

Earth Kissed Eats ₹ 220/500g
★ 4.8 - 0 +

Ingredients

Know the Ingredients of the food you are eating by scanning the QR code given below.

ADD TO CART

Home List Heart Cart (0) Profile

iPhone 13 & 14 - 8

< Product Specification

Earth Kissed Eats
Baked products

Ingredients in organic cookies typically include organic flour, sugar, butter or plant-based oils, eggs, and some organic flavorings such as vanilla or chocolate. Organic cookies avoid synthetic pesticides and genetically modified ingredients, emphasizing a more natural and environmentally friendly approach.

ADD TO CART

Home List Heart Cart (0) Profile

iPhone 13 & 14 - 15

< Product Specification

Orchard Delights
Packed foods

Orchard Delights ₹ 150/100g
★ 4.2 - 1 +

Ingredients

Know the Ingredients of the food you are eating by scanning the QR code given below.

ADD TO CART

Home List Heart Cart (0) Profile

iPhone 13 & 14 - 9

< Product Specification

Orchard Delights
Packed foods

Ingredients in orchard delights include organic fruits, organic sugar and some organic pectin for thickening. Organic jam avoids synthetic pesticides and genetically modified ingredients, focusing on natural and sustainable farming practices.

ADD TO CART

Home List Heart Cart (0) Profile

iPhone 13 & 14 - 14

< Product Details

Fruit Fusion
Packed foods

Fruit Fusion ₹ 170/L
★ 4.6 - 1 +

Ingredients

Know the Ingredients of the food you are eating by scanning the QR code given below.

ADD TO CART

Home List Heart Cart (1) Profile

iPhone 13 & 14 - 12

< Product Specification

Fruit Fusion
Packed foods

Fruit fusion include a blend of organic fruits - a mix of organic apple, orange, grape, pineapple, and other organic fruits. Organic juices avoid synthetic pesticides and genetically modified organisms, emphasizing natural and sustainable farming practices.

ADD TO CART

Home List Heart Cart (1) Profile

The screenshot shows a Figma interface with a dark theme. At the top, there are various tool icons: a magnifying glass, a play button, a double arrow, a square, a hand, and a speech bubble. The title bar says "Untitled". On the right side, there are more icons for "Share", "Copy", and "39%".

The main area displays a sequence of screens:

- iPhone 13 & 14 - 21:** A sidebar with a list of components:
 - # iPhone 13 & 14 - 21
 - # iPhone 13 & 14 - 20
 - # iPhone 13 & 14 - 19
 - # iPhone 13 & 14 - 18
 - # chevron-right
 - T Place your Order and Pay
 - Rectangle 75
 - Line 3
 - T Arriving 12 Mar 2024
 - Line 2
 - O Ellipse 18
 - O Ellipse 17
 - T Tuesday 12 March FREE Stan...
 - Rectangle 74
 - T Get it by
 - T Add Delivery Instructions
- iPhone 13 & 14 - 10:** Shows items added to cart:
 - Green Harmony Delight (₹ 260)
 - Fruit Fusion (₹ 170)A "COMPLETE YOUR ORDER WITH" section lists:
 - Pure Harvest Bliss [100ml] (₹ 80) ADD+
 - Earth Kissed Eats [500g] (₹ 220) ADD+A "Use Coupons" section shows:
 - Item Total ₹ 430
 - Taxes & Charges ₹ 60
 - Grand Total ₹ 490
- iPhone 13 & 14 - 17:** Shows an "Available Coupon" section with "ORGANICFIRST" and an "APPLY" button. It also includes:
 - Enter coupon code
 - Get Flat 40% OFF
 - Valid on total value of items worth ₹ 199 or more.
 - [View Details](#)
- iPhone 13 & 14 - 18:** Shows "Deliver to" information for "Shiwangi Singh" at "IIT Lucknow, Chak Gajaria, Lucknow, Uttar Pradesh". It includes:
 - Add Delivery Instructions
 - Get it by Tuesday 12 March FREE Standard Delivery
- iPhone 13 & 14 - 19:** Shows a "Select a payment method" screen:
 - Pay ₹294.00 for this order. Get 40% off for first order.
 - Continue
- iPhone 13 & 14 - 20:** Shows payment method options:
 - EMI Unavailable for this payment
 - Cash on Delivery/ Pay on Delivery Cash, UPI and Cards accepted. [Know More](#)
- iPhone 13 & 14 - 21:** Shows a "My Store" summary:
 - Show order summary
 - Local variables
 - Local styles
 - Export

Select a payment method

Pay ₹294.00 for this order.
Get 40% for first order.

Continue

WAYS TO PAY

- Amazon Pay UPI 
Punjab National Bank ****
Check balance
- UPI Apps 
- Credit or debit card 
- Net Banking 

Continue

100% Purchase Protection
Original Products | Secure Payments

EMI 
Unavailable for this payment

Cash on Delivery/ Pay on Delivery 
Cash, UPI and Cards accepted. [Know More](#).

Add Gift Card or Promo Code

Continue

My Store

Show order summary  ₹490.00
₹294.00

Confirmation #1CQDFAR3G

**Thank You,
Shiwangi!**


Shipping address: Ahmamau UP

Your order is confirmed

You'll receive a confirmation text with your order number shortly and delivery updates by email.

Continue Shopping









THANK YOU