



EcoTrack – Smart Waste & Carbon Footprint Monitoring System

Theme: Sustainability, Social Impact & Environment

Team Name: PRS

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Event: Innov-A-Thon



PROBLEM SYATEMENT

- Rapid urbanization has led to inefficient waste management and increasing carbon emissions.
- Lack of real-time monitoring results in:
 1. Overflowing waste bins.
 2. Poor recycling practices.
 3. Unaware citizens contributing to environmental damage.
- Existing systems are manual, time-consuming, and inaccurate.





PROPOSED SOLUTION

EcoTrack is a smart, technology-driven platform that:

- Monitors waste levels using smart sensors.
- Tracks individual and community carbon footprints.
- Provides eco-friendly suggestions and alerts.
- Encourages responsible behavior through data insights and awareness .

TECHNICAL APPROACH

Hardware: IoT sensors (Ultrasonic sensors, Arduino/ESP32)

Software:

- Frontend: Web/App dashboard
- Backend: Cloud database

Features:

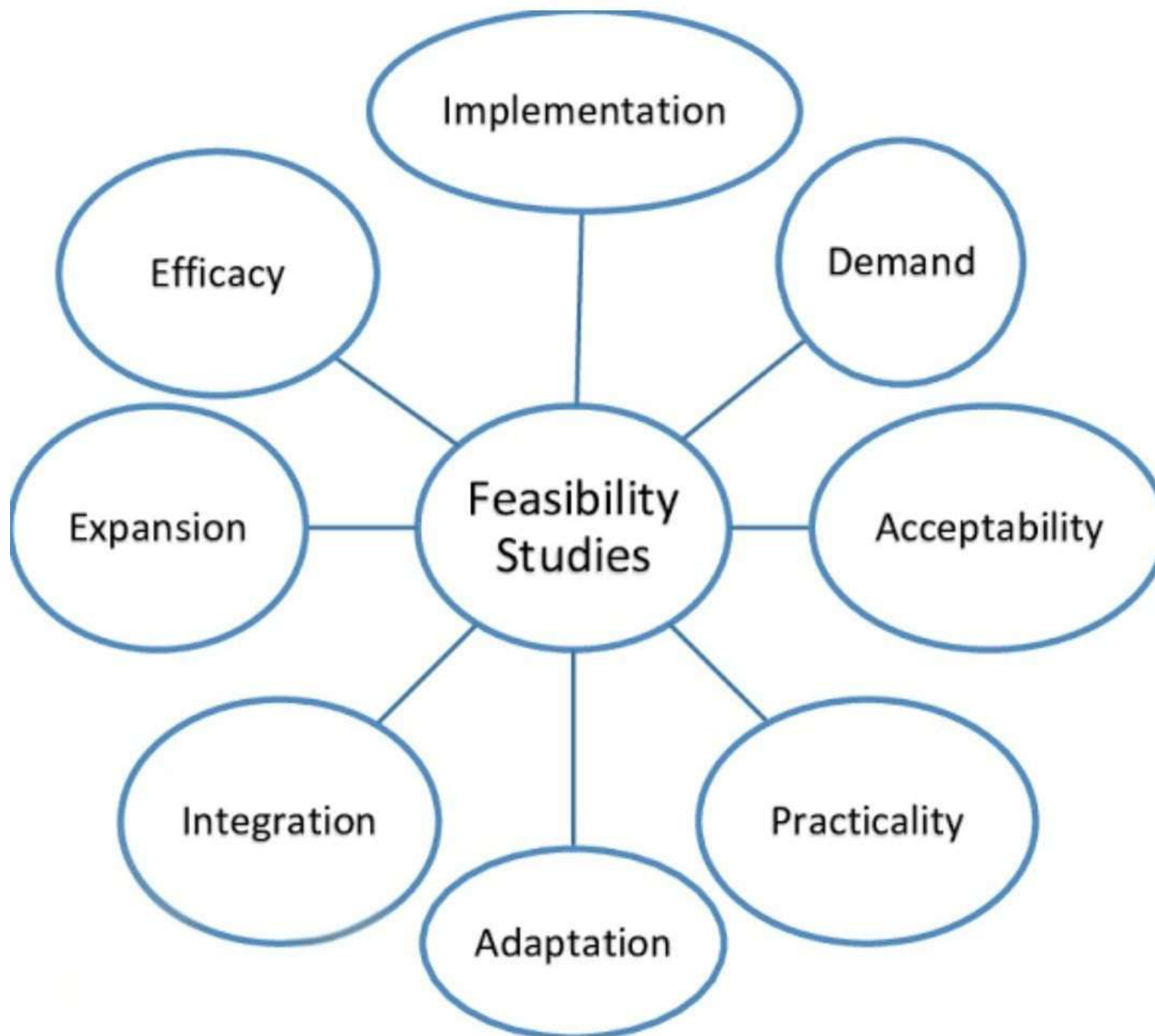
- Real-time waste level monitoring
- Carbon footprint calculator
- Notification & alert system

Data Analytics: Reports for authorities and communities



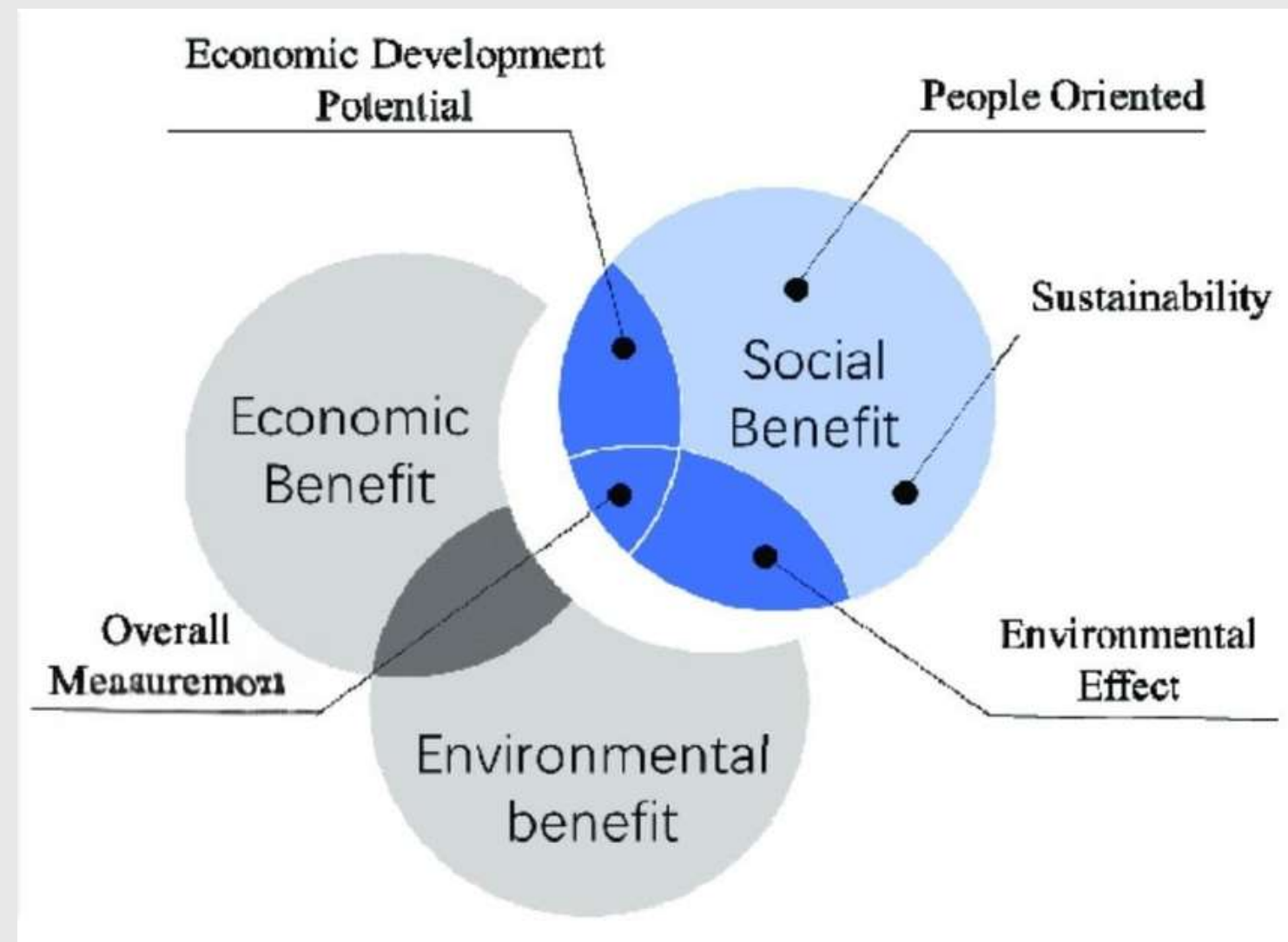
FEASIBILITY

- **Uses low-cost and easily available components**
- Can be implemented in:
 1. Colleges
 2. Residential societies
 3. Smart cities
- Scalable and adaptable for different regions
- Requires minimal maintenance after deployment





Sustainable Living



IMPACT AND SOCIAL BENEFITS

- Reduces environmental pollution
- Promotes recycling and waste segregation
- Raises awareness about climate change
- Helps authorities plan efficient waste collection
- Encourages sustainable lifestyle choices
- 🌱 Long-term benefit: Cleaner cities & reduced carbon emissions





LIVE DEMO/VIDEO AND LINK

<https://share.google/OIRny6pdd7yQ2084D>

CODE :

```
#include <stdio.h>

int main()
{
    printf("ENVIRONMENTAL SUSTAINABILITY\n\n");

    // Definition
    printf("Definition:\n");
    printf("Environmental sustainability means using natural resources wisely\n");
    printf("so that future generations can also meet their needs.\n\n");

    // Importance
    printf("Importance of Environmental Sustainability:\n");
    printf("1. Protects natural resources like water, air, and soil.\n");
    printf("2. Reduces pollution and waste.\n");
    printf("3. Maintains balance in ecosystems.\n");
    printf("4. Supports long-term economic growth.\n\n");

    // Examples
    printf("Examples of Sustainable Practices:\n");
    printf("1. Using renewable energy like solar and wind power.\n");
    printf("2. Recycling and reusing materials.\n");
    printf("3. Saving water and electricity.\n");
    printf("4. Planting trees and protecting forests.\n\n");

    // Conclusion
    printf("Conclusion:\n");
    printf("Environmental sustainability is essential for a healthy planet\n");
    printf("and a better future for all living beings.\n");
```





CONCLUSION

EcoTrack presents a smart and sustainable approach to addressing critical environmental challenges such as waste mismanagement and rising carbon emissions. By integrating IoT technology, real-time data monitoring, and user-friendly digital platforms, the solution promotes responsible waste disposal and environmental awareness at both individual and community levels.

The project is cost-effective, scalable, and feasible for real-world implementation in urban areas, institutions, and smart cities. Most importantly, EcoTrack creates a positive social impact by encouraging sustainable practices and supporting long-term environmental conservation.

In conclusion, EcoTrack is not just a technological solution, but a step towards building a cleaner, greener, and more sustainable future.