

COMMUNITY CONNECT REPORT

ON

DumpDetect

Submitted as part of the requirements for Community Connect program

By the Students of

BTech CSE, 3rd year

Section -A

Under The Guidance Of

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TABLE OF CONTENTS

PARTICIPANT DETAILS	2
FACULTY ACKNOWLEDGEMENT	4
ABSTRACT	5
INTRODUCTION	6
Gomti Nagar - Lucknow	6
LITERATURE REVIEW	6
METHODOLOGY	7
DATA COLLECTION	8
SURVEY DATA QUESTIONS	8
SURVEY QUESTIONS - (In-Person Interviews)	8
SURVEY QUESTIONS - (Google Form)	9
DATA ANALYSIS- (Google Form)	11
INSIGHTS	13
PROJECT DETAILS	19
CONCLUSION	24
FUTURE SCOPE	26
REFERENCES	28

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We would like to express my deepest appreciation to all those who provided me the possibility to complete this report. Apart from the efforts of myself, the success of any project depends largely on the encouragement and guidelines of many others. We take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this report. We would like to show my greatest appreciation to **Mr. Ashish Jain**. We can't say thank you enough for his tremendous support and help. We feel motivated and encouraged every time we attend his meeting. Without his encouragement and guidance this project would not have materialized. The guidance and support received from all the members who contributed and who are contributing to this project, was vital for the success of the project. We are grateful for their constant support and help. Besides, We would also like to thank the authority of Sharda University for providing us with a good environment and facilities to complete this project. Finally, an honorable mention goes to our families and friends for their understandings and supports on us in completing this project. Without helps of the particular that mentioned above, We would face many difficulties while doing this.

ABSTRACT

The project explores the environmental concerns of people living in Lucknow's Gomti Nagar, with a specific emphasis on the pollution and neglect of local water bodies and lakes. According to field surveys and interviews carried out in the region, the study identifies a serious absence of public reporting systems, in spite of the apparent existence of polluted lakes and dumping grounds surrounding residential colonies. Though most residents are concerned about the state of their environmental degradation, they do not know about government schemes already in place or lack access to a platform from which they can report effectively.

For this purpose, the project brings forward DumpDetect: Report. Restore. Revive.—a web-based, citizen-centric application that enables communities to report incidents of water pollution in real time. The website enables citizens to create geo-tagged reports, upload supporting evidence, track live pollution maps, and view educational material and government schemes dedicated to environmental conservation. By filling the gap between public concern and actionable solution, DumpDetect encourages community involvement, increases awareness regarding government assistance programs, and encourages shared accountability for water conservation.

Keywords: *Water Pollution, Citizen Reporting, Government Schemes, Gomti Nagar, DumpDetect, Community Engagement, Environmental Awareness*

INTRODUCTION

City pollution, particularly pertaining to water bodies, has become a rising issue in Indian cities. In localities such as Gomti Nagar, Lucknow, citizens reside alongside lakes and ponds which have been converted into unofficial dumping sites for sewage, plastic waste, and industrial runoff. Given evident pollution and health hazards, individuals frequently have no suitable channel or system to complain about these issues in a meaningful way.

It was noted in field interviews and surveys, as part of this project, that the majority of residents knew about the pollution but did not possess technical means and knowledge of available government programs or support systems to act. This pointed to the biggest gap: the lack of a citizen-centric reporting platform and lack of knowledge about intervention options.

To fill this void, the project launches DumpDetect: Report. Restore. Revive., a web application that enables users to submit reports of pollution in real-time through photographs, geo-tagging, and minimal forms. The application also plays an educative role—increasing awareness of government programs, green best practices, and citizen engagement.

This project not only fills a pressing local requirement in Gomti Nagar but also sets the stage for an exponentially scalable civic-tech solution that can be replicated to other parts of the country that similarly require it. It combines technology, citizen engagement, and policy literacy into a single platform aimed at creating a more educated, responsive, and sustainable city.

Gomti Nagar - Lucknow

Gomti Nagar is a large urban area in the Lucknow district of Uttar Pradesh, measuring about **49.2 km²** and with a population of more than **3.17 lakh** individuals. It is famous for its well-planned neighborhood, with both high-end housing colonies and lower-class residential settlements along lakes and water bodies. Based on population estimates, the **male population stands at about 1.65 lakh** and the **female population is approximately 1.52 lakh**. The literacy rate of the locality is high, corresponding with district levels— **84.3% for men** and **73.9% for women**. The postal code for Gomti Nagar is **226010**. Though developed, various surveys indicated that some lakes in the area were being treated as dumping grounds, and most of its dwellers—particularly along these water bodies—are not aware of how to report such things or of accessing government-sponsored support schemes. This underlines the significance of such people-oriented platforms as **DumpDetect** in enhancing reporting and environmental action in cities.

LITERATURE REVIEW

During the last few years, the government of India has initiated numerous schemes for welfare to en-

hance the standard of living in rural and urban sectors. Educational scholarships, pension schemes, financial assistance under Swachh Bharat Abhiyan, Namami Gange, and so on, are offered to assist individuals. The success of these initiatives is greatly dependent on people's awareness and participation.

Studies indicate that even in semi-urban zones such as Gomti Nagar, Lucknow, a large segment of citizens are not aware about how to seek the benefits or where to complain about problems within the area, including dumping waste and pollution around the lakes. It became evident through fieldwork and online polls within the region that while the grievances are genuine, there is a huge impediment in the form of no proper reporting mechanisms and awareness.

Experts argue that technology and local participation can fill this gap. Mobile applications, community-based platforms, and local language interfaces can facilitate the ease with which citizens report issues and are aware of current government schemes. Efforts such as DumpDetect illustrate how technology can directly link individuals to civic systems, making it easier to act and access assistance.

Therefore, there is increasing demand for easily accessible, user-friendly platforms that create awareness and enhance involvement, particularly in urban and semi-urban areas.

METHODOLOGY

For understanding the environmental issues of **Gomti Nagar, Lucknow**, specifically the problem of non-reported dumping along lakes, a **mixed-method approach** was used. This included both **digital surveys** and **person-to-person observations/interviews** to obtain information from residents there.

A well-structured **Google Form survey** was sent out via WhatsApp, social media, and local community clubs. The form had both multiple-choice and open-ended questions in topics ranging from awareness of local pollution to knowledge about reporting mechanisms and government schemes. This ensured that a diverse group, including youngsters, working individuals, and students in the locality, was

reached.

At the same time, **on-site observations and casual interviews** were undertaken near identified dump spots and lakes in Gomti Nagar. The residents, shopkeepers, and commuters passing by were questioned regarding their experiences with nearby pollution and whether they had ever complained about such incidents. They were concerned but revealed that they had **no proper channel** or **no knowledge of how to act**.

Blending answers from offline and online sources created a better understanding of the **awareness gap and the necessity for a reporting system**. These results directly influenced the creation of **DumpDetect**, an easy-to-use, bilingual citizen platform with functionality such as **pollution reporting, awareness content, location tagging, and integration with civic schemes**.

DATA COLLECTION

Data was collected through a mixed-method design in Gomti Nagar, Lucknow. There were 27 responses, including 15 face-to-face interviews along contaminated lakes and 12 responses through a Google Form survey posted online. The aim was to know how much awareness residents had about pollution matters and the lack of adequate reporting systems. The findings were directly used to influence the design of the DumpDetect platform.

SURVEY DATA QUESTIONS

Demographic information was collected through a structured survey. Participants were asked to provide the following details:

1. Age
2. Gender
3. Education Level
4. Occupation
5. Household Income

SURVEY QUESTIONS - (In-Person Interviews)

1. How many adult members are in the family?

2. How many children are in the family?
3. What is the primary source of income?
4. What is the total monthly income of the family?
5. What type of home do you live in?
6. Who manages the household budget?
7. How do you track household expenses?
8. Do you have a regular doctor or clinic?
9. How often do you visit a doctor?
10. How do you manage medical expenses?
11. Is there any chronic illness in the family?
12. Do you have access to clean drinking water?
13. Do you have a functional toilet at home?
14. Do you regularly use cleaning products?
15. Have you experienced hygiene-related health issues?
16. Are you originally from this place?
17. What was the main reason for migration?
18. Do you plan to stay here permanently?
19. Have you heard about any government schemes?
20. How did you learn about these schemes?
21. What could improve awareness and accessibility of schemes?
22. Have you noticed garbage dumping near water bodies?
23. How often does dumping occur?
24. What type of waste is dumped?
25. Have you reported dumping to any authorities?
26. Are you aware of any helpline or platform to report pollution?
27. Would you be willing to use a mobile app to report dumping?
28. What features would you prefer in a pollution-reporting app?

SURVEY QUESTIONS - (Google Form)

- Section 1: Basic Respondent Info

1. Full Name
2. Age Group
3. Gender
4. Address (Village/Area & District)

- Section 2: Clean Water & Hygiene

5. Do you have access to clean drinking water at home?
6. Is there a functional toilet in your household?
7. Do you use cleaning products regularly for hygiene at home?
8. Have there been any hygiene-related health issues in your family?
9. How do you manage water usage in your household?
10. Do you face issues like water leakage or irregular water supply?

- Section 3: Climate Action & Dumping Awareness

11. Have you noticed garbage dumping near lakes/rivers in your area?
12. How often does dumping occur near these water bodies?
13. What kind of waste is usually dumped?
14. Have you ever reported pollution or dumping to authorities?
15. Would you use a mobile app to report environmental issues?

16. What features would you like in such an app?



DATA ANALYSIS- (Google Form)

15 responses were collected by conducting in-person interviews in Gomti Nagar, Lucknow, with regard to sanitation-related problems, environmental issues, and the utilization of digital platforms for reporting.

The majority of the respondents were between 26 and 35 years of age, and they were predominantly male. Almost all claimed to have access to clean drinking water, operable toilets, and regular use of cleaning agents. Some mentioned health issues related to hygiene, while a few claimed leakage or irregular supply of water in the home.

Environmentally, all but one participant had witnessed dumping of garbage along rivers or lakes, with weekly dumping being the most prevalent. The dump was mostly household and plastic in nature. Few,



if any, had ever made a report of the problem to the authorities.

When prompted about the application of technology, the majority replied that they were willing to report environmental problems through a mobile application. Features that they liked were uploading pictures, auto-locating, monitoring report status, and informing the concerned authorities.

Overall, the results indicate high public consciousness and intention to respond, but absence of access to appropriate reporting channels—pointing towards the necessity of having a platform such as Dump-Detect.

INSIGHTS

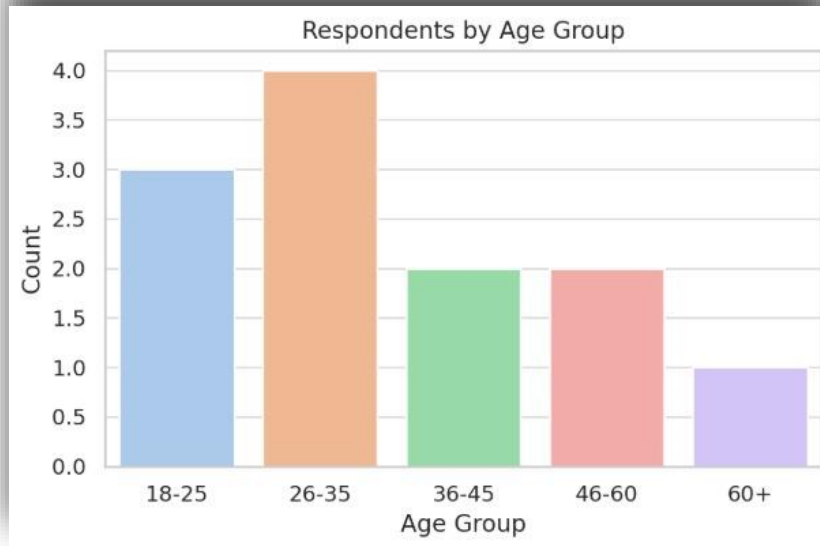
Through interviews and data collection we noticed some insights that would help in understanding the demographics.

DATA INSIGHTS

Various Insights were analyzed from the data collected and the insights were compiled in pie-charts for better visual representation.

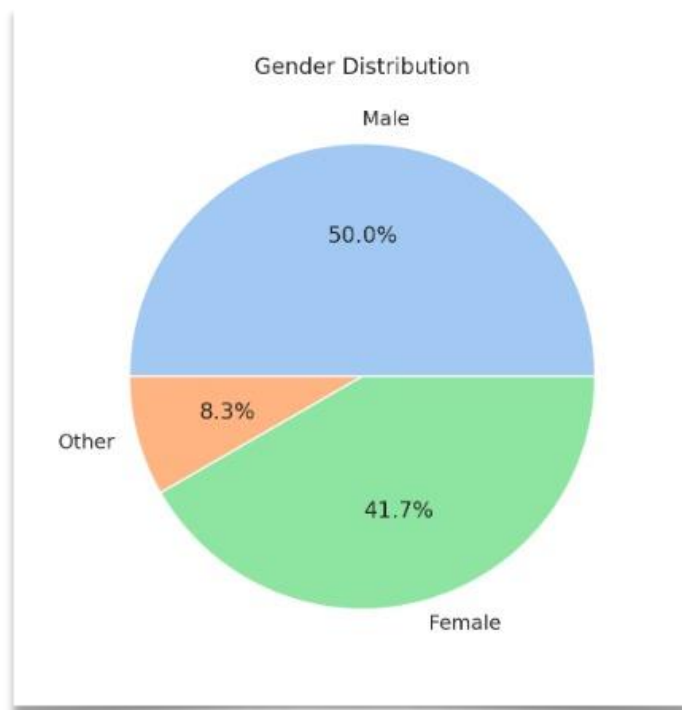


Fig. 1. Age Distribution of Respondents by Age Group



The age distribution of the 12 respondents shows that the majority belonged to the **26–35** age group (4 respondents), followed by the **18–25** group (3 respondents). Both the **36–45** and **46–60** age groups had 2 respondents each, while only 1 participant was from the **60+** category. This indicates stronger engagement from younger adults, particularly those between 18 and 35 years of age.

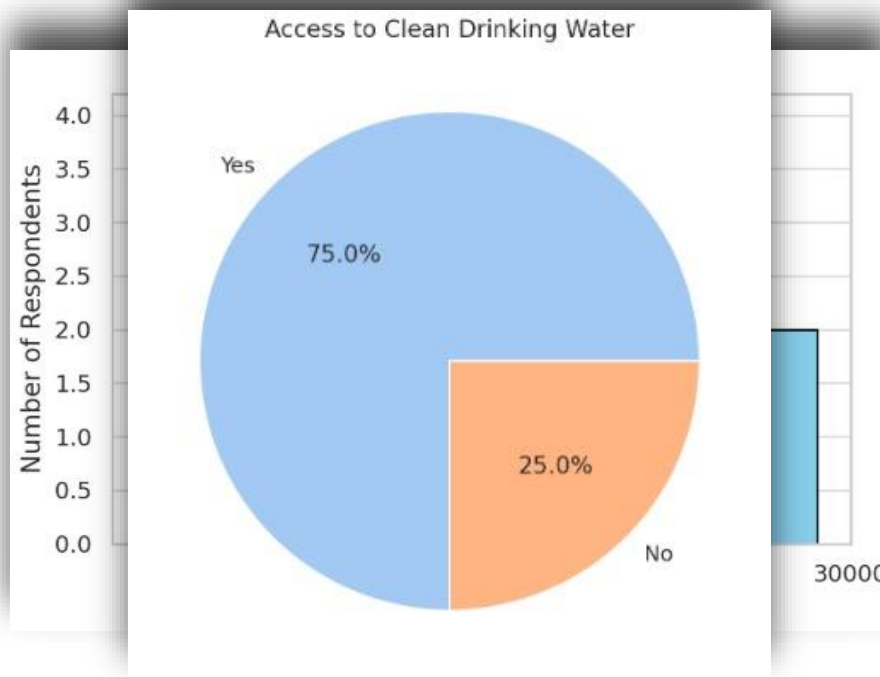
Fig. 2. Gender Distribution of Respondents



The gender distribution among the 12 respondents shows that **50% identified as male, 41.7% as female, and 8.3% as other**. This reflects a fairly balanced participation across genders, with a notable inclusion of individuals identifying outside the male-female binary, contributing to the diversity of the dataset.

Fig. 3. Monthly Income Distribution of Respondents (in ₹)

The income distribution shows that the majority of respondents earn between **₹10,000 and ₹15,000 per month**, with 4 individuals in each of the lower income brackets. A smaller number of participants reported monthly



incomes in the range of ₹20,000 to ₹30,000, reflecting relatively limited income diversity within the surveyed group.

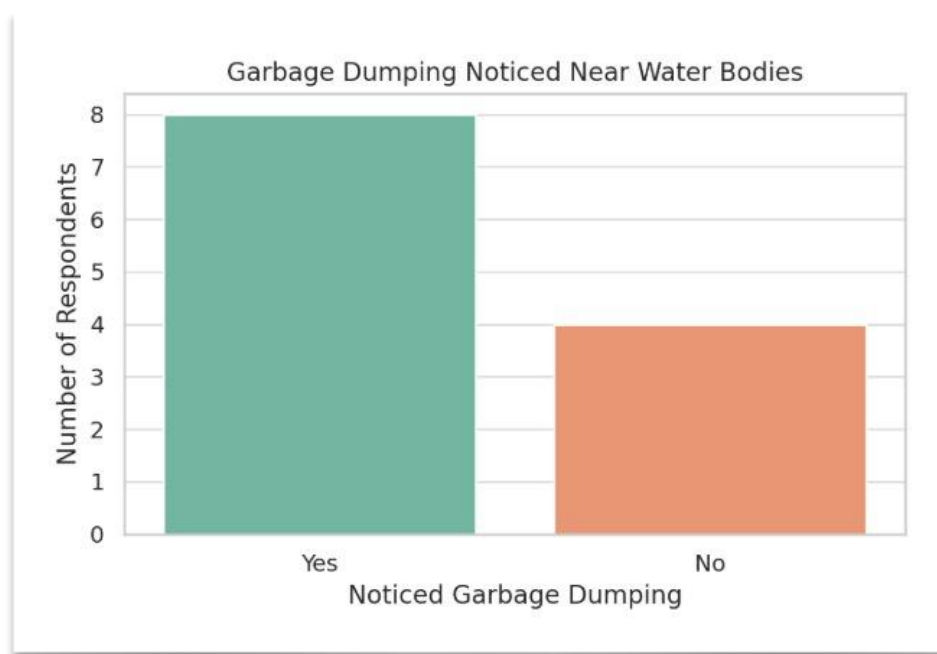


Fig. 4. Garbage Dumping Noticed Near Water Bodies

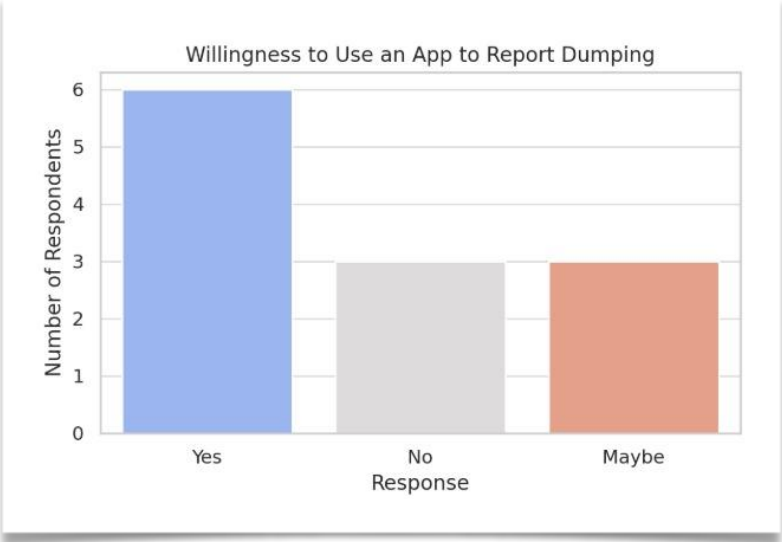
Out of 12 respondents, **8 reported noticing garbage dumping** near water bodies in their area, while **4 did not**. This suggests that **a majority of residents are aware** of visible environmental pollution, particularly around local lakes or rivers, highlighting the need for accessible public reporting tools and improved waste management.

Fig. 5. Access to Clean Drinking Water

The chart shows that **75% of respondents** reported having **access to clean drinking water**, while **25% do not**. This indicates that although the majority have basic water access, a **significant minority still face challenges**, highlighting the need for improved infrastructure and water quality monitoring in the area.

Fig. 5. Access to Clean Drinking Water

Fig. 6. Willingness to Use an App to Report Dumping



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INTERVIEW INSIGHTS

1. High Concern, Low Action

- Majority of the respondents knew that there were issues of pollution around nearby lakes but had never made any official complaints because they did not have access or knowledge.

2. No Awareness of Reporting Channels

Respondents could not name any helpline, application, or civic body in charge of receiving dumping complaints.

3. **Desire for Simplicity**

Individuals voiced interest in utilizing a reporting platform, as long as it is easy, local language accessible, and cell phone accessible.

4. **Will to Utilize Technology**

Even from those who are not familiar with apps, most demonstrated a willingness to learn if the platform served to guard their environment.

5. **Digital Tools Perceived as Useful**

Respondents appreciated the concept of an app with features such as photo upload, location marking, and real-time tracking of complaints as useful and much required.

6. **Desire for Community Support**

Certain respondents stated that they would feel more empowered to take action if they observed others within their community doing it.

PROJECT DETAILS

Project Title: DumpDetect – *Report. Restore. Revive.*

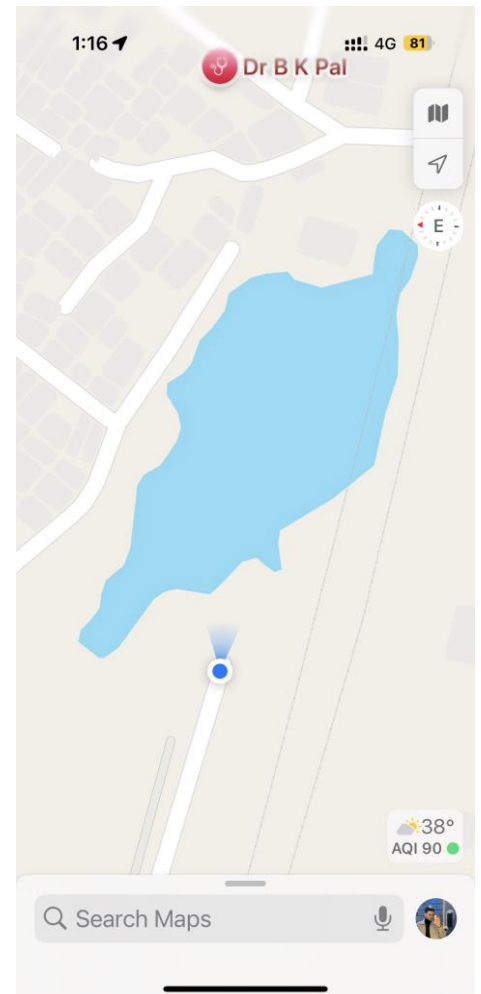
Location Focus: Gomti Nagar, Lucknow, Uttar Pradesh

Problem Statement:

Residents of areas adjacent to contaminated lakes and dumping grounds in Gomti Nagar are exposed to environmental and health risks but do not have a convenient system in place to file these complaints. There is a conspicuous lack of awareness about existing government schemes and no official platform to effectively route civic grievances.

Proposed Solution:

DumpDetect is an internet-based tool aimed at enabling citizens to report dumping, water pollution, and hygiene-related complaints. It also promotes awareness of government schemes and invites public support in environmental action.



KEY OBJECTIVES:

1. **Recognize and tackle environmental issues** associated with illegal dumping along lakes and water bodies in Gomti Nagar, Lucknow.
2. **Evaluate citizen awareness** regarding pollution, cleanliness, and current government schemes.
3. **Create a digital reporting system** that facilitates easy, real-time reporting of environmental problems.
4. **Close the gap between the citizen and civic authorities** by offering a straightforward and accessible means of communication.
5. **Encourage community engagement** in environmental protection and awareness programs.
6. **Promote national programs** like **Swachh Bharat Abhiyan** and **Namami Gange** with localized digital participation.

KEY FEATURES:

1. Pollution Reporting Form:

- Enables users to post pictures, explain the problem, and provide their location in a single click.

2. Live Pollution Map:

- Shows community-reported locations using Leaflet.js and GPS coordinates.

3. Multi-language Support:

- Provides English and Hindi support for usability across user categories.

4. Educational Content:

- Sends awareness tips, facts about clean water, and links to government schemes relevant to the topic.

5. Auto-location Tagging:

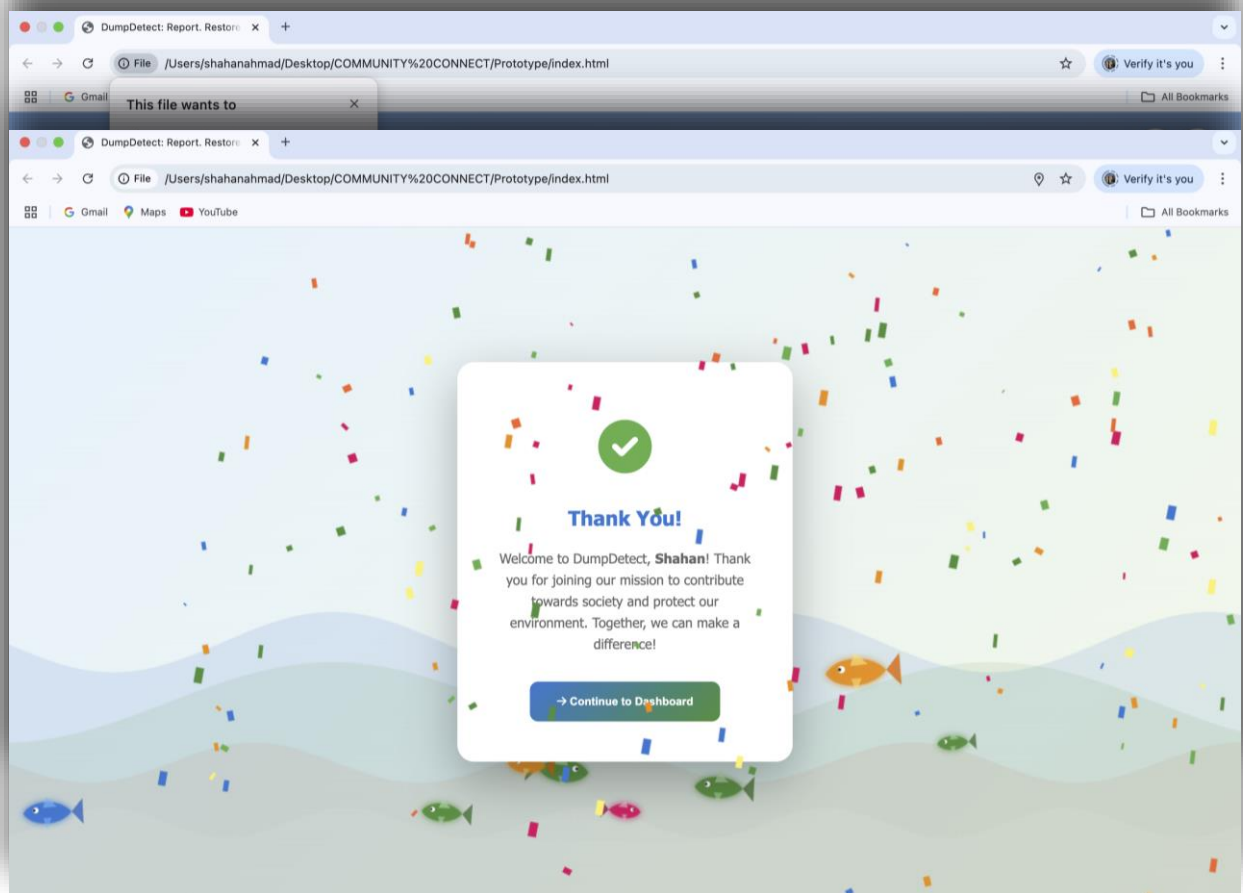
- Detects user location automatically to add to reports.

6. Report Tracking System:

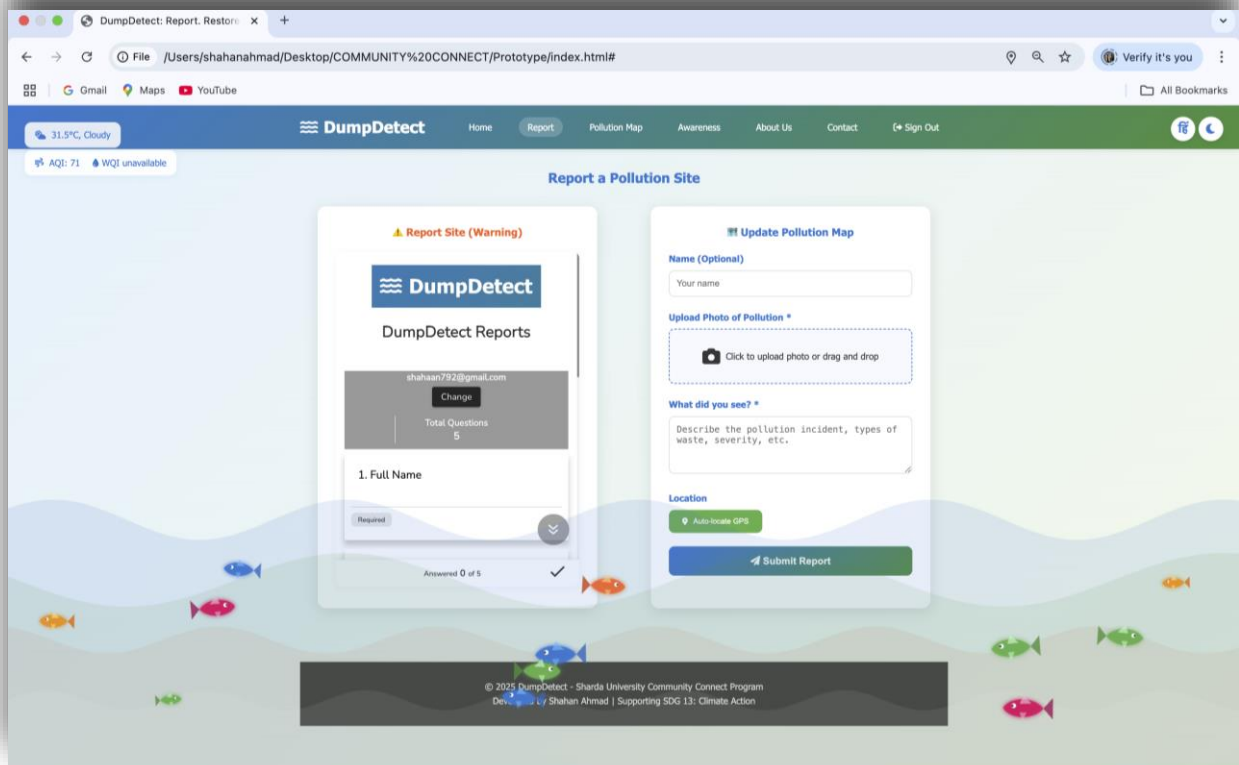
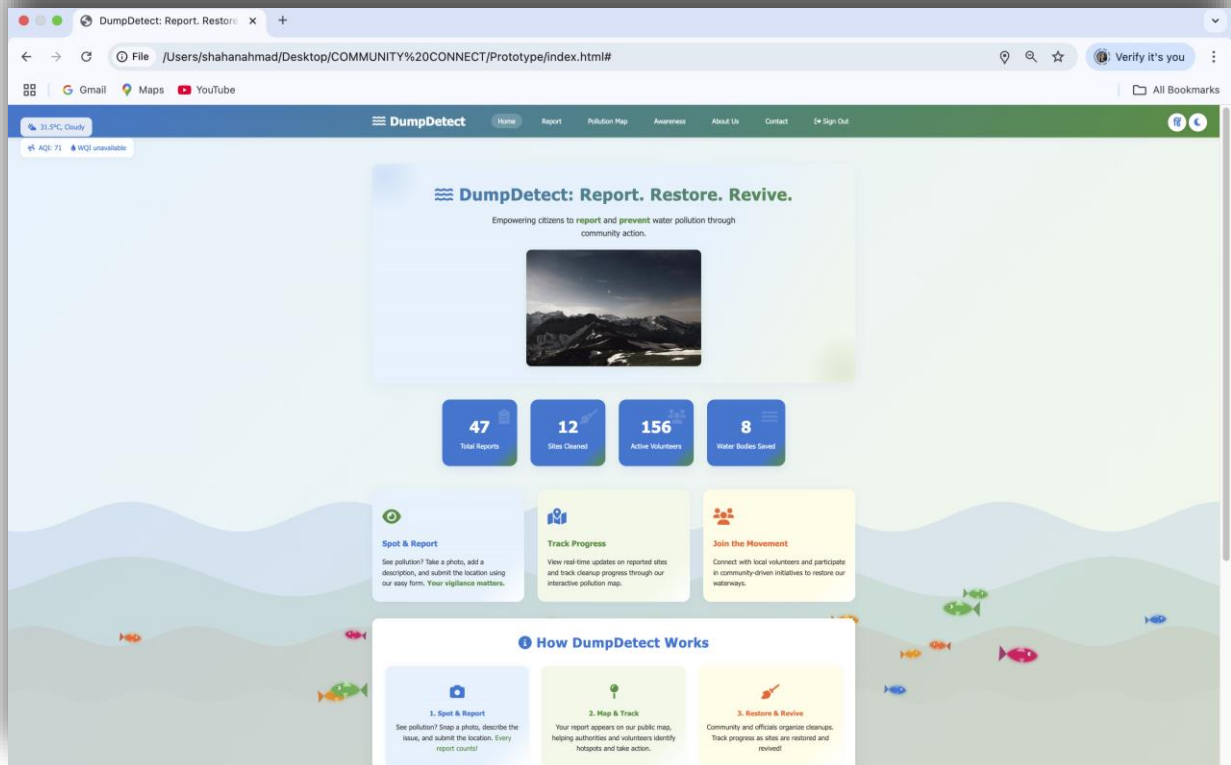
- Enables users to view submitted reports and see if there are updates or responses.

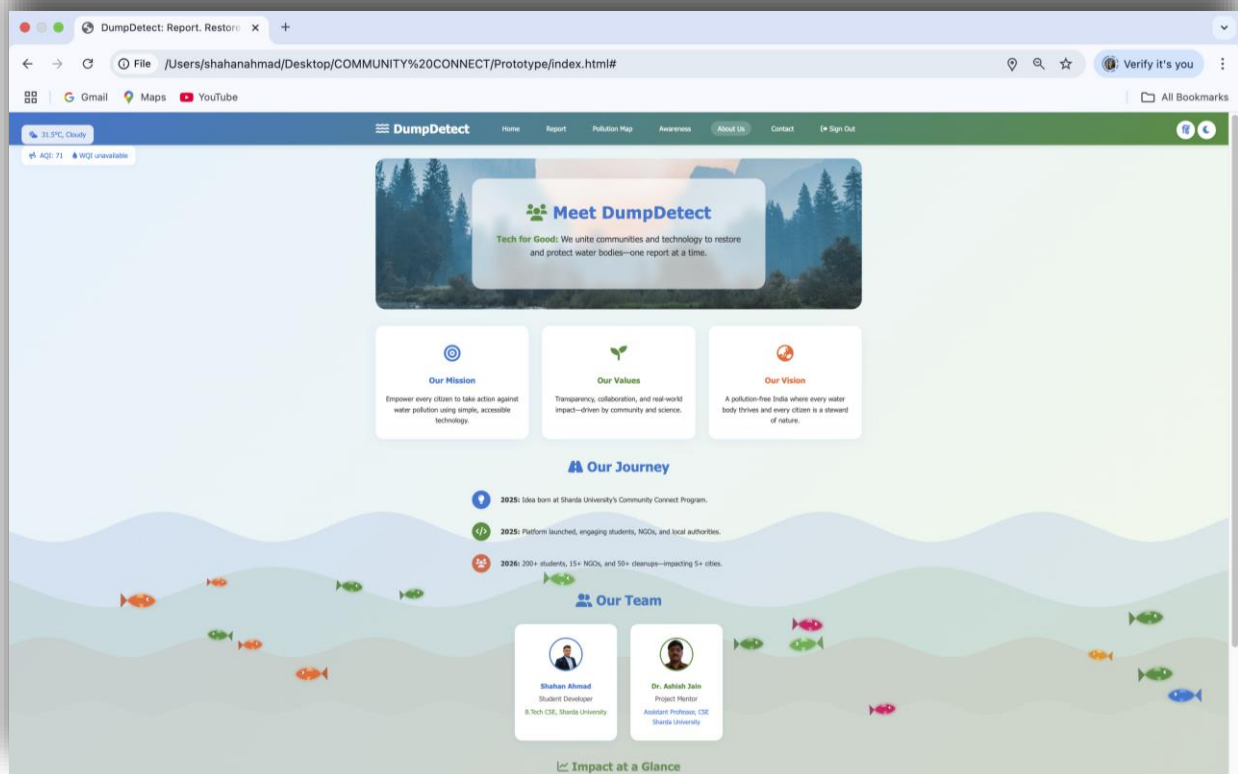
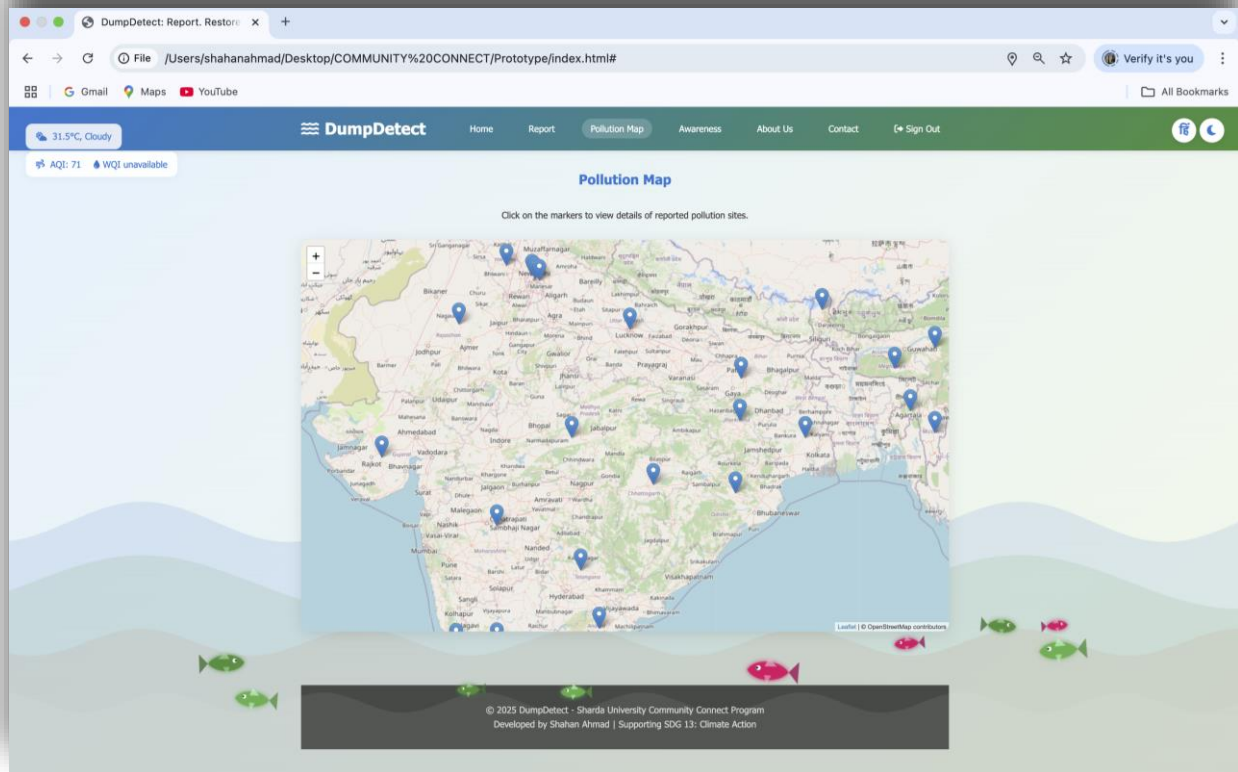
7. Responsive & Mobile-Friendly

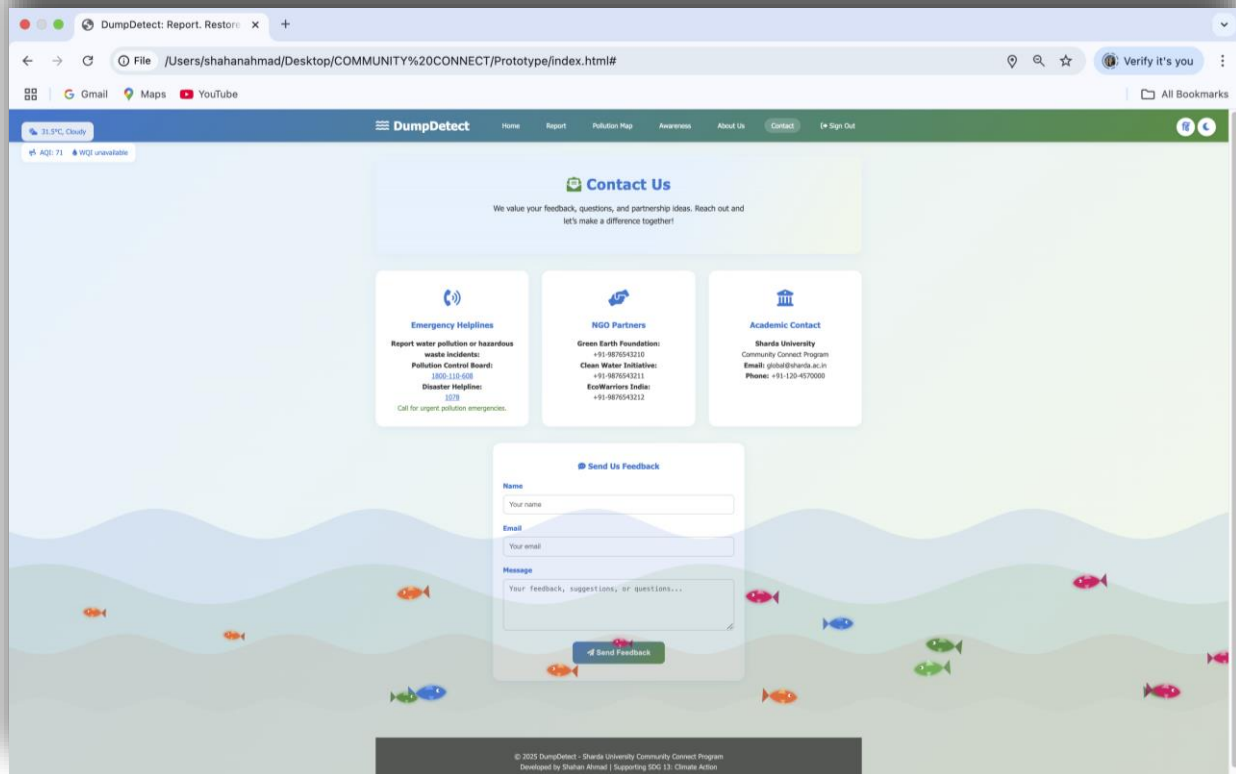
- Works on different devices, made for people with a basic digital reach.



CONCLUSION







CONCLUSION

This project highlights an urgent civic and environmental problem in urban colonies like Gomti Nagar, Lucknow, wherein the residents are directly affected by water pollution caused by abandoned and trash-filled lakes. Yet, there is no official or easy process for the public to report such environmental issues, nor is proper information about available government schemes available that could aid in their resolution.

From grassroots surveys and conversations, it was clear that citizens are willing to act but are restrained by information deficiency and online platforms. To fill this gap, DumpDetect: Report. Restore. Revive. was imagined and developed—a people-centric web app aimed at enabling citizens to report pollution events, map real-time information, and identify appropriate government initiatives.

This project not only responds to the urgent call for a reporting tool but also makes a contribution to environmental awareness, public participation, and policy outreach. It closes the gap between citizens and the authorities by the use of technology so that the government may become more responsive and participatory in their governance of the environment.

In the future, the platform can be scaled up, integrated with the government system, and used for larger civic issues. At the end of it all, DumpDetect is an example of uniting research, technology, and social action in addressing real-world challenges through educated and shared responsibility.

FUTURE SCOPE

1. Mobile App Development

Develop a standalone mobile app for Android and iOS to make it more accessible. Features would be:

- Real-time photo capturing
- Location tagging
- Offline reporting support

2. Integration with Government Portals

Partnership with local governments, state pollution control boards, and national initiatives (e.g., *Swachh Bharat Abhiyan*, *Namami Gange*) to:

- Directly send authenticated reports to the authorities
- Create an easier and quicker response system

3. Multilingual Support Enhancement

Enhance the language support of the platform beyond English and Hindi to accommodate more regional languages for:

- Increased inclusivity
- Increased comfort for users across diverse India

4. Data Analytics and Heatmaps

Incorporate advanced visualization features such as:

- Pollution density heatmaps
- Time-based trend graphs
- Features to support NGOs, researchers, and policy makers with focused action

5. Community Engagement Features

Incorporate social features such as:

- Discussion forums
- Cleanup planning tools for communities
- Sharing of user-generated content to promote collaboration

6. AI-Powered Report Verification

Employ AI for:

- Assess and mark duplicate or spurious reports
- Enhance credibility and accuracy of reporting on the platform

7. Educational Gamification

Add gamified aspects such as:

- Badges and points
- Leaderboards
- Quizzes to foster environmental consciousness, particularly among the youth

8. Scalability to Other Environmental Issues

Make the application of the platform extend to other civic issues, including:

- Air pollution
- Illicit dumping
- Sanitation issues
- Forest loss

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