The 'Solutions for Change' Project
Our SDG Impact Journey

A Reflection Booklet

Project Title: "From Degradation to Development: Converting Lakes into Rural Lifelines"

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Alliance School of Business | MBA Class of 2025-27

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❖ Table of Contents

❖ Introduction: Our Commitment to the Global Goals

This booklet documents our 2-day sprint to address an Un-Sustainable Development Goal within our local community. It is a chronicle of our journey to understand a complex global challenge at a human level and design a targeted intervention. This project represents our commitment, as future leaders from the Alliance School of Business, to apply our skills to create a more sustainable and equitable world.

Chapter 1: Localizing the SDGs - Immersion & Problem Finding (Day 1)
Our Chosen SDG & Its Relevance in Anekal

- **Our Chosen SDG:** "SDG 6: Reflection report for Doddakere".
- **Why this SDG is Critical for the Anekal Community:** "It was noticed that there was the need for Water Security to a Growing Population, Sustaining Rural Livelihoods while Fighting Encroachment and Pollution."

- **Problem Definition Canvas: An SDG Challenge**

  This canvas served as a foundation for translating global goals into a specific problem that can be acted upon.

Component: -	**The Definition of Our Team is to provide Restore natural inflow, enforce anti-encroachment laws, adopt comprehensive monitoring, strengthen governance structures, Ensure a scientific design.**
Chosen SDG: -	SDG 6: Clean Water & Sanitation
Target Community Group: -	Fisherman, Farmers, Villagers in areas around Anekal.
Observed SDG-Related Challenge: -	"They face water quality degradation align with that loss of biodiversity, which results into directly impacting to SDG 6's goal of clean water and sanitation, also directly reflects policy and the governance gap."
Core User Need: -	They need a credible water-quality monitoring tool, social awareness, information access with governance structure strengthening.
Insight / Systemic Barrier:	The lakes of Anekal are the multi-functional sources of irrigation, drinking water, biodiversity, and flood buffers. The revival of the same directly improves agriculture, access to water, and community resilience
Initial Problem Statement:	Anekal, located on the rapidly urbanizing outskirts of Bengaluru, is home to dozens of ancient lakes and tanks. In fact, to this water body held the backbone of local ecology—agriculture, especially, recharging groundwaters, and flood buffering. But in the last two decades, it has greatly degraded due to a combination of urban encroachment, poor planning, and governance gaps.

Chapter 2: The Human Face of the SDGs - Empathy & Research (Day 1)
Our User Personas: Living the SDG Challenge

To better understand the human impact underpinning their stated SDG, we built up some user personas.

"Yes, by the data taken from the local villagers, it was Garbage Waste Management along with the illegal Sand mining issue that was also very major. At this very location, without asking for any permission, do these illegal sand mining processes run."

Key Insights: Connecting Empathy to the Global Goals

Our research has described how people live the global goal every day.

- **Key Insight 1:** "We learned that many of the local farmers suffer primarily from such problems as Plastic waste, Constructional waste, Home use Garbage, etc."."
- **Key Insight 2:** "Besides, we also found out that there is no proper man power management for collecting the village garbage from the villages which are listed in the Suragajakkanahalli View Gram Panchayat. Only One Vehicle is allotted for all the Ten villages (i.e. Ballur, Chikkahosahalli, Indlawadi, Gowrenahalli + 6 villages) which directly comes under this Taluka."

Refined Problem Statement

Our focus, therefore, is further articulated through the deeper human-centered understanding of this SDG challenge.
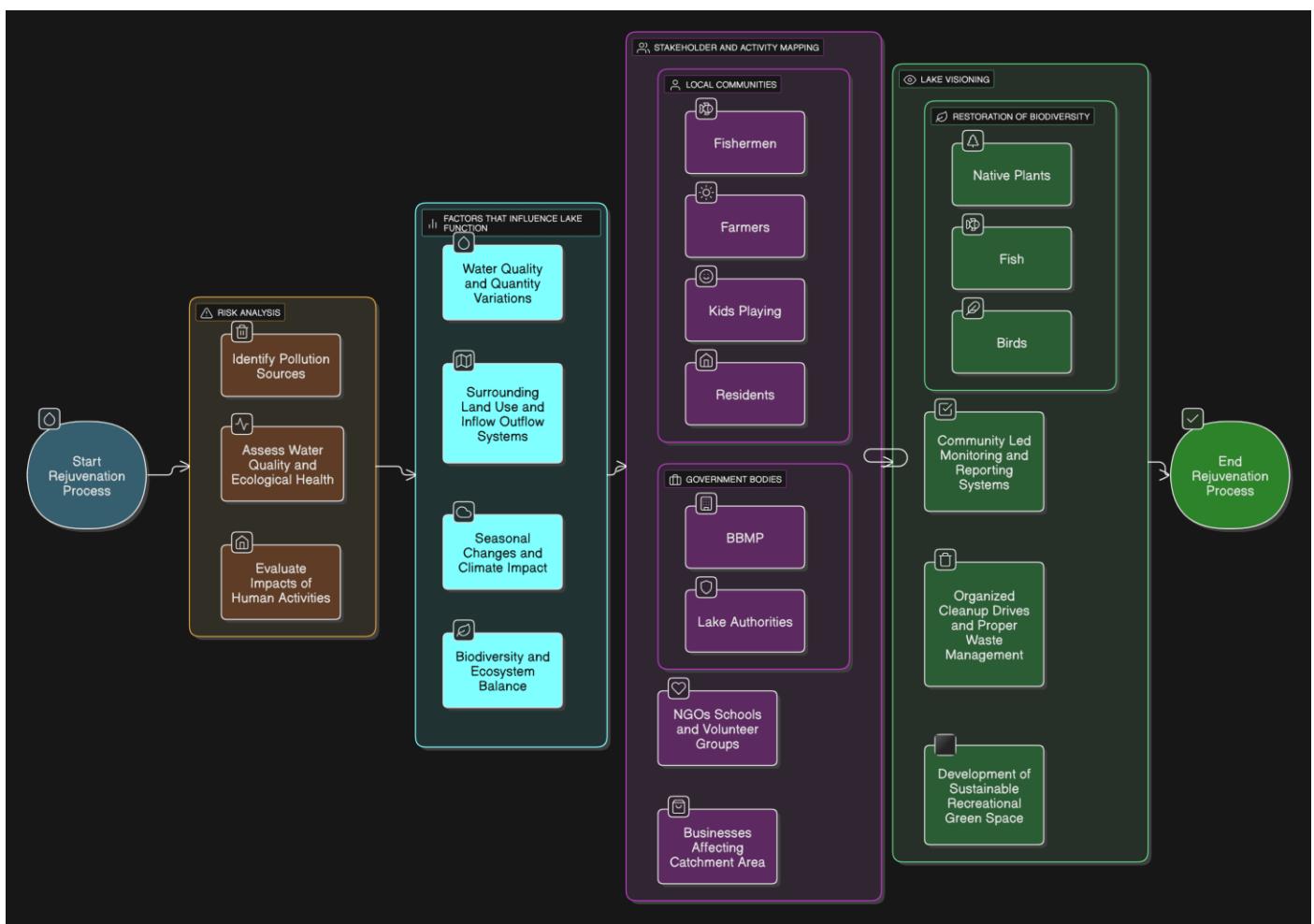
This has been an earlier thriving natural habitat and community asset, but Doddakere Lake has degraded severely under the burden of unchecked pollution and improper waste disposal by local residents, and even inadequate government infrastructure for waste management and lake maintenance. The lack of assigned manpower in waste collection and lake cleaning has accumulated garbage and algae at the same time aquatic life is on a decline. This project is meant to rehabilitate such a neglected lake into a sustainable and rejuvenated ecosystem by community-led waste segregation, awareness programs, and low-cost decentralized lake management solutions ensuring long-term environmental health and social impact.

Chapter 3: Ideating for Impact - Creative Solutions (Day 1)
"How Might We" Address this SDG Challenge?

We added a further stage to our revised problem wherein it was reformulated into opportunity questions meant to capture the widest possible array of creative interventions.

- **HMW Statement 1:** How might we make clean drinking water more accessible to remote and underserved communities using low-cost purification technologies?
- **HMW Statement 2:** How might local communities be motivated into taking up the task of regular monitoring and maintenance of the public water sources so as to prevent contamination?
- **HMW Statement 3:** How might we design a decentralized community-led water management system that enables sustainable use and equitable distribution of water resources?

- **Visual Map of Our Potential Interventions**

Chapter 4: Planning our Intervention - Solutioning & Project Planning (Day2)

- **Our SDG Impact Project Charter**

Section	Description
Project Name:	"Alliance NeerSetu: Eco-restoration of Doddakere Lake through Community-Led Monitoring and Smart Technologies"
Final Problem Statement:	In Anekal area, located in Bengaluru, women, school-going children, and small vendors have to wake up to the same problems every day due to inadequate potable water and poor sanitation. All these have been affecting health, education, and livelihood negatively. To make matters worse, there is no proper waste management system, which makes people throw household and commercial wastes into the lakes and open areas around them. Apart from contaminating precious water sources, this act further aids in environmental degradation, hence bringing public health risks. The community's willingness to support hygiene practices is high. However, because of lack of infrastructure, awareness, and community-led solutions, it cannot be realized strongly enough on SDG 6: Clean Water and Sanitation, thus intersecting SDG 11: Sustainable Cities, and Communities, and SDG 15: Life on Land.
SDG Solution Description:	Alliance NeerSetu – Smart Eco-Friendly Lake Rejuvenation System **Alliance NeerSetu** is a smart, eco-friendly lake rejuvenation solution designed for Doddakere Lake. Our prototype consists of a modular floating platform embedded with a Raspberry Pi controller connected to pH, TSS, and alkalinity sensors. This IoT-integrated system monitors water quality in real-time using the ThingsSpeak platform and supports natural purification through phytoremediation beds, making it a low-cost and sustainable alternative to conventional lake treatments. This solution directly supports SDG 6 (Clean Water), SDG 13 (Climate Action), SDG 11 (Sustainable Cities), SDG 15 (Life on Land), and SDG 17 (Partnerships). By combining smart technology, nature-based solutions, and community engagement, Alliance NeerSetu aims to restore the lake's health, promote biodiversity, and empower citizens to take part in preserving urban water bodies for future generations.

- **SDG Target Alignment:**

SDG	Goal Title	Relevant Targets	Project Contribution
SDG 6	Clean Water and Sanitation	6.3: Improve water quality by reducing pollution, minimizing release of hazardous chemicals, halving untreated wastewater and increasing recycling. 6.5: Implement integrated water resources management.	IoT-enabled sensors track water parameters (pH, TSS, Alkalinity); Phytoremediation beds help biologically clean the lake; floating platforms help manage local water treatment.
SDG 11	Sustainable Cities and Communities	11.3: Enhance inclusive and sustainable urbanization and participatory, integrated human settlement planning. 11.6: Reduce the environmental	Community involvement via QR feedback, lake adoption program, and awareness campaigns; reduced environmental pollution near urban lake zones.

		impact of cities, including air and water quality.	
SDG 13	Climate Action	13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.	Enhances ecological resilience of the lake ecosystem; passive systems like phytoremediation and solar-powered units reduce carbon footprint.
SDG 15	Life on Land	15.1: Ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems. 15.5: Take urgent and significant action to reduce degradation of natural habitats.	Revives aquatic and bird biodiversity through clean water; promotes native vegetation through floating gardens and reed beds.
SDG 9	Industry, Innovation and Infrastructure	9.5: Enhance scientific research and upgrade the technological capabilities.	Use of Raspberry Pi-based IoT for monitoring lakes showcases innovation; introduces low-cost tech-based solution for natural ecosystems.
SDG 12	Responsible Consumption and Production	12.5: Substantially reduce waste generation through prevention, reduction, recycling and reuse.	Encourages use of biodegradable materials, phytoremediation, and bio enzymes instead of chemicals; reduces dependence on resource-intensive cleanup.
SDG 17	Partnerships for the Goals	17.17: Encourage and promote effective public, public-private and civil society partnerships.	Brings together students, civic bodies, academia, and communities to collaboratively monitor and maintain lake health.

- **Core Features (MVP):**

Feature	Description
Raspberry Pi-Based Control Unit	Central microcontroller to collect and process sensor data.
Sensor Integration	Measures key water quality parameters: pH (SEN0161), TSS (TDS Sensor), Alkalinity (DFROBOT Water Sensor).
Real-Time Data Monitoring	Live data collected and displayed on dashboard or local LCD screen.
IoT Connectivity	Connected to IoT platform (e.g., ThingSpeak) for remote access and alerts.
Modular Floating Platform	Eco-friendly platform that holds sensors, allows mobility across the lake.
Phytoremediation Bed	Floating plants that naturally absorb pollutants from the water.
Solar Power System (Optional)	Solar panel powers Raspberry Pi and sensors for energy efficiency.
Web Dashboard (Basic)	Displays sensor data, alerts if thresholds are crossed.
Local Data Storage (SD Card)	Backup data logging for offline analysis.
Alert System (Optional)	SMS/Email alert when water quality parameters exceed safe limits.

Impact Metric (SDG-focused):	**Impact Metric (SDG-focused): For the impact matrix we have used Failure Mode And Effect Analysis (FMEA Six Sigma Tool) Data is Attached As below.** NatureSync_Alliance-FMEA.xlsx

- **Team Roles & Responsibilities:**

Roles And Responsibilities	Name Of Group Member
Project Lead	Pratik Dhurandhar
Designer Thinker	Shreya Gajanan Nimkar
Pitch Presenter	Tanish Panwar
Prototype and architect	Omkar Tanaji Gurav
Field Work Coordinator	Prakash K
Impact Analyst	Khushi V
Creative Director	Nagamanoj Penukonda
Marketing Strategist	Arnav Iai
Documentation Lead	Rishi Raj

Chapter 5: Prototyping for People and Planet - Build, Test, Learn, Repeat (Days 2)

SDG Focus: Clean Water and Sanitation (SDG 6) | Climate Action (SDG 13) | Sustainable Communities (SDG 11)

As part of our journey to create sustainable, community-driven solutions for Doddakere Lake rejuvenation, Day 2 of our SDG project focused on prototyping with purpose—aligning innovation with ecological and societal impact.

We began by conceptualizing the technical architecture of "NeerSetu", our flagship prototype designed to monitor lake health using Raspberry Pi-based IoT integration.

The team collaborated to build a modular prototype that consists of:

- Raspberry Pi Controller: Serving as the central processing unit.
- Connected Sensors: pH, TSS, and Alkalinity sensors calibrated to detect water quality in real time.
- Phytoremediation Bed: Using aquatic plants to filter pollutants naturally.
- Floating Modular Platform: An eco-friendly structure to hold the system in place.
  Each element was brainstormed, tested virtually, and integrated into a working model. The prototype is not just about technology—it's about creating sustainable, low-cost, and scalable solutions that communities can own and operate. During Day 2, our process followed a "Build-Test-Learn" loop:
- Build: Assembled the hardware framework for circuit integration virtually and initial coding logic for Raspberry Pi OS.
- Test: Simulated sensors programmes and virtual output has been monitored.
- Learn: Identified areas for improvement in sensor calibration and platform stability. Also, the parameter ranges and water Quality indicators: -
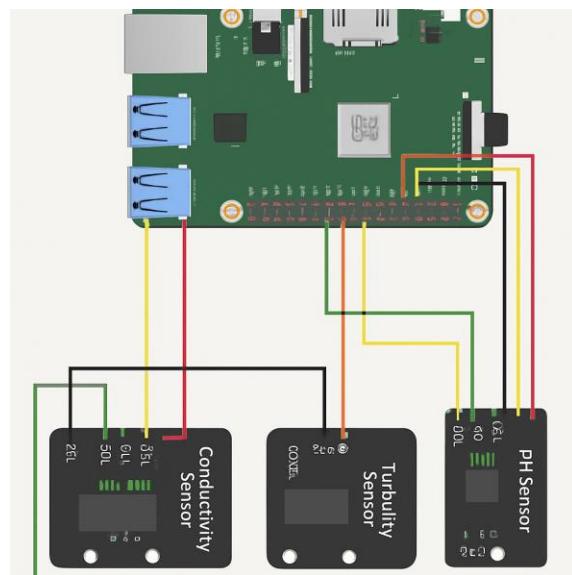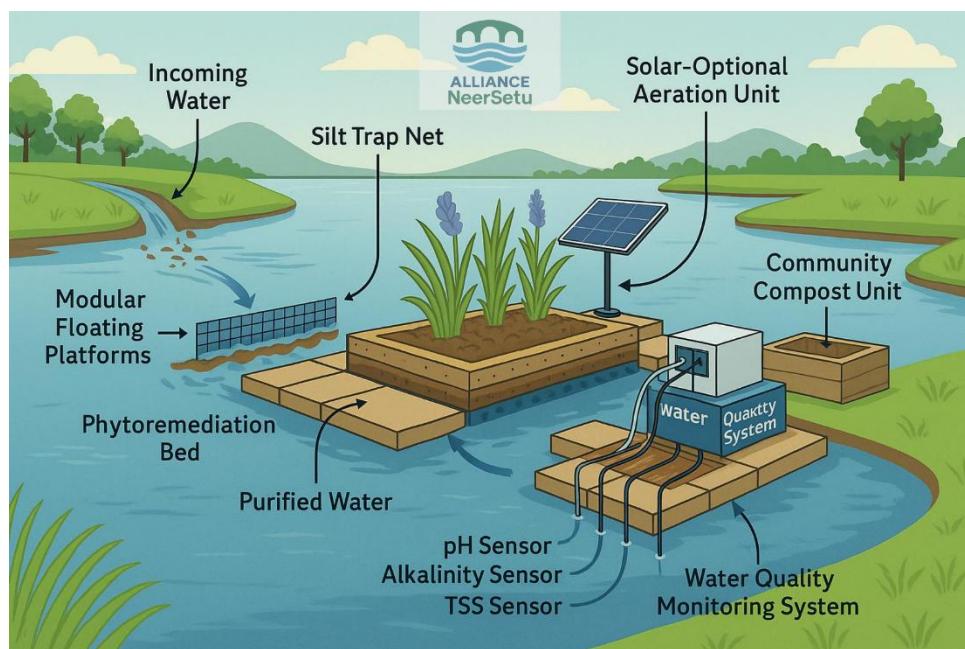
Parameter	Water Type	Range	Unit
pH Level	Drinkable	6.5 – 8.5	pH
pH Level	Wastewater	<6.0 or >9.0	pH
Turbidity	Drinkable	0 – 5	NTU
Turbidity	Wastewater	>50	NTU
TDS	Drinkable	0 – 500	mg/L
TDS	Wastewater	>1500	mg/L

- Our prototype is still evolving, but it stands as a proof of concept for smart, inclusive environmental monitoring systems that can empower local communities and support municipal efforts toward water body restoration.

1. Circuit Diagram of Prototype:-

2. Alliance NeerSetu: EcoSmart BioFloat (ESBF) for Lake Monitoring and Control for Rejuvenation.

❖ Validating Our Solution's Value

In our final test, we moved beyond compliments to validate that our solution offered real value and that the community would commit to it.

- **Question We Asked for Commitment:** Why the waste management program was not proposed before, and why the frequency of the garbage-collecting vehicle is very low, i.e., once a week also what are the measures that have been taken by the Anekal Gram Panchayat regarding the rejuvenation of Doddakera Lake.

- **Response & What It Means for Our Solution:** According to the conversation with Development and Planning Officer Anekal Gram Panchayat held after we put forward the current issues real-time regarding waste management and concerned Doddakera lake, he assured that in coming months they will allocate special budget for cleaning the lake as well as; they are planning to increase the manpower allowance for waste management and vehicle frequencies for waste pick-up from home to home.

Chapter 6: Pitching with Purpose - Crafting & Delivering Our Story (Days 2)
Our 5-Minute Pitch for SDG Action

- **Introduction:** We are Team *NeerSetu*, a group of aspiring changemakers from Alliance University, working under the Sustainable Development Goal framework—primarily aligned with SDG 6: Clean Water and Sanitation and SDG 13: Climate Action. Our mission is to restore and monitor urban water bodies through scalable, cost-efficient, and eco-friendly interventions.

- **The Problem We Identified:**
  Urban lakes like **Doddakere Lake** in Bangalore are rapidly degrading due to untreated sewage, industrial waste, and community negligence. These lakes, once vital to local ecosystems and livelihoods, are now breeding grounds for disease and pollution. Traditional lake rejuvenation methods are costly, difficult to scale, and often lack data-driven monitoring.

- **Our Innovative Solution – NeerSetu:**
  NeerSetu is a modular, floating IoT-enabled water quality monitoring and remediation system. The platform combines:
- **Raspberry Pi-based IoT controller**
- **pH, TSS (Total Suspended Solids), and Alkalinity sensors**
- **Phytoremediation beds** using native aquatic plants
- **Cloud integration via platforms like ThingsSpeak.**
- Our prototype is energy-efficient, easy to replicate, and delivers **real-time data for early action and preventive lake management.** It's a **low-cost yet high-impact solution** for communities, municipalities, and environmental organizations.

How We Built It:
We followed a structured design thinking approach:
1. **Empathy & Field Work:** Visited Doddakere Lake, interacted with locals, and analyzed water samples.
2. **Problem Definition & Ideation:** Brainstormed scalable, sustainable, and tech-driven interventions.
3. **Prototyping:** Developed a low-fidelity working model integrated with sensors.
4. **Testing & Feedback:** Collected SDG-focused feedback from faculty, community members, and experts.

Expected Impact:
- **Environment:** Improved lake health through natural water remediation.
- **Community:** Access to cleaner water and improved public awareness.
- **Policy:** Data-backed insights for smarter governance and planning.
NeerSetu is **not just a project—it's a movement towards data-enabled, decentralized, and people-powered water governance.**

Our Call to Action:
We invite collaboration from civic bodies, NGOs, and researchers to further develop, deploy, and scale *NeerSetu* across Bangalore and beyond. Let's connect technology with ecology and communities for a water-positive future.

❖ Reflections from the 'Solutions for Change' Summit

Short reflection on the day of the conference: What we managed to get from attending the Solutions for Change Summit was an experience on the view beyond mere technicality of a solution and just how community involvement, empathy, and system thinking could drive meaningful change. This is more unique in lake restoration projects in Anekal.

- Environmental problems are human in nature Most of the vendors, farmers, and students shared their lives and how they are impacted daily by the degraded condition of lakes in their vicinity. The summit reminded us clearly today that clean water is not a green issue; instead, it is a social concern that directly affects health, education, and livelihoods.

- Waste management is everybody's concern. The other major theme that came out crystal clear from both of our fieldwork experiences and conversations is what it entails in making improper dumping in and around the lakes in Anekal. We learned that even when there is an understanding of the harm done, the absence of clear roles, infrastructure, and accountability often causes inaction.

- Community-led monitoring builds ownership: A major learning from the summit was on the power of decentralized people-driven monitoring systems. It is only when the local community owns it that solutions designed around school-based lake clubs, women's groups, or digital reporting tools become sustainable.

- Quick prototyping can uncover hidden barriers: New barriers might be discovered by prototyping more rapidly. An initial model was rapidly prototyped during our quick prototype exercise of how a lake-watch toolkit and an awareness campaign might look. It informed us that one big barrier to citizen involvement was language and access to information, and trust in the authorities. Engage with local panchayats to ensure proper waste collection and disposal systems.

We believe that answers begin from where people are—and with continued support from the ground, these lakes in Anekal can become testimony to sustainable, locally driven change.

- **Corporate Social Development (CSR):**

1. We realized that CSR is not just about compliance—it's a powerful tool for social transformation. Many companies are now aligning their CSR efforts with the Sustainable Development Goals (SDGs). During the summit, we discovered how corporations can become key enablers of change by:
2. Funding environmental restoration projects like lake rejuvenation.
3. Offering technological support and mentorship for student-led innovations.
4. Creating employee volunteering programs for on-ground involvement.
5. Our takeaway: Solutions like NeerSetu can be adopted by CSR departments to create measurable impact in water conservation and community development.

- **Role of NGOs:**

1. NGOs are the bridges between community, government, and innovation. Through various presentations and discussions, we saw how local and national NGOs play a crucial role in:
2. Conducting community engagement and awareness drives.
3. Helping navigate legal, environmental, and local governance frameworks.
4. Sustaining lake restoration efforts through long-term monitoring and adoption programs.
5. We believe that partnering with NGOs can amplify the reach and impact of our NeerSetu initiative by helping us deploy the solution at scale and ensure community participation.

- **Lake Adoption Models:**

1. One of the most valuable lessons was learning about the "Adopt-a-Lake" model adopted by various city municipalities in collaboration with NGOs and corporations. These models promote:
2. Shared ownership and accountability of lake health.
3. Clear division of responsibilities between citizen groups, government bodies, and corporates.
4. Long-term maintenance plans funded through CSR or crowd-sourced methods.

Chapter 7: Reflecting on Our Role in the 2030 Agenda (Day 2)

The Journey

- **Our Biggest Success:** Our success has been in understanding the deep interconnections and complex relationships of SDG 6 on the ground and converting that into a realistic community-driven solution.

1) Soon after conversations with residents in Anekal, it struck us that lake pollution, water scarcity, and sanitation problematically are not seen as solo problems but part of a greater system influenced by poor waste management, lack of awareness, and limited civic engagement.

2) Engaging school children, women, and small vendors through diverse group meetings beyond mere presumptions has enabled co-creation of a solution that would stand tests of time. The ideas of "Lake.

3) Guardian Clubs" and localized monitoring toolkits came from the community itself—their inclusion makes the solution more grounded, inclusive, and sustainable.

4) This shift—that is, from problem-solving for the community to design with the community—is what made our project relevant and impactful.

- **Our Biggest "Productive Failure" & What We Learned about SDG Work:** The most productive failure we had was by assuming that awareness alone can drive behavior change. In the beginning, a lot of education was done with communities on the need for clean lakes and sanitation, with assumption that if they understood people would, of course, act differently.

1) On testing and gathering feedback, that perception was wrong because it turned out that even those who knew full well the risks of waste dumping into the lake still went on to do so—not because they didn't care, but because they had no means of alternatives.

2) This experience taught us a strong lesson:

a) The SDG work is not just about spreading awareness; rather, it is all about enabling action.

b) People do not need only information; they need infrastructure, support systems, and a feeling of ownership to bring about lasting change. This failure helped us redesign our solution to focus more on access and accountability, not just education.

2. The Solution

How confident are we, on a scale of 1 to 10, that our solution will add toward SDG 6 in the community of Anekal? We are highly confident that out solution will actually be able to deliver some tangible contribution to realizing SDG 6: Clean Water and Sanitation in the community of Anekal **since it is based on local reality, co-created with community involvement, and designed to be sustainable in the long run.**

1. Our approach does not merely grant access to clean water and sanitation infrastructure but has community-led monitoring, promoting behavior change, and addressing waste management deficiencies which flow directly into water bodies like lakes.

2. **What gives us this assurance?**

a) **Direct user feedback with women's groups and vendors on the solution's utility and need.**

b) It could certainly be more workable, adding to things when affiliated with schools or panchayats within the system.

c) A design that allows scaling, flexible with community ownership, not just one-time intervention.

d) While we know that complex issues like water pollution and sanitation need sustained efforts, we believe our solution is a **realistic and practical first step** toward achieving SDG 6 at the grassroots level in Anekal.

• **Next, how can this be a real lasting intervention?** The next step is to pilot in one particular community zone of Anekal, such as a school or neighborhood near a polluted lake, in collaboration with local government bodies, schools, and self-help groups.

   This pilot would include:-
1. Installation of a basic clean water kiosk or
2. sanitary unit Installing **a basic clean water kiosk or sanitation unit**
3. Forming a community-led monitoring group (like a "Lake Guardian Club")
4. A reporting, feedback, and dissemination mechanism—digital or offline
5. Coordinating with the municipality on regular waste pickup and awareness campaigns
6. For this intervention to be sustainable, it is imperative that:
7. **Train a team of local volunteers to look after and monitor the system**
8. Strange if a mechanism of funds is not put in place, maybe through CSR partnerships or local NGO support;
9. Establishing a feedback loop with the community to iterate the solution over time. Final implementation of such projects can only be enhanced by community ownership and integration into local governance in a way that it evolves on its own even in the absence of external support.

3. **The Team**

1. **Our Team's Greatest Strength in Tackling this Complex Problem:** The major strength of our team was being able to mix empathy with a solution orientation. We did not study the problem from an ivory-tower height, but rather went down to the community, listened actively, and let the voice of local residents shape our ideas. - A lot of these would be Research, Field insights, and Creative Thinking combined; A commitment to human-centered design; our solution would root back to real needs Good collaboration and adaptability, especially during fast prototyping and feedback sessions Developed a mindset of learning through failure, which helped us evolve the solution when assumptions did not hold true This cocktail of empathy, creativity, and hard work guided us through the challenge of water and sanitation not only as a technical problem but a human, environmental, and social responsibility challenge.

● **Our Biggest Teamwork Challenge & How We Overcame It:** Our biggest teamwork challenge was to align different concepts and working styles under tight time constraints. In the beginning, each team member had a different focus—some wanted to prioritize clean water kiosks, others emphasized waste management, while a few focused on school sanitation.

1. This resulted in a lot of confusion and delays during the ideation and prototyping phase.
2. We overcame this challenge by:
3. **Coming back to our user insights** — we re-read feedback from the Anekal community and used that as our guiding light.
4. Clearly demarcating roles, which reduced overlaps and instilled mutual trust.
5. Holding brief daily syncs to ensure everyone was on the same page and to unearth problems in the early stages.
6. In this process, we realized that strong teamwork is not reached through consensus but rather by finding alignment around a common purpose and listening with respect to alternate views. This actually worked to move us forward as a unified, purpose-driven team.

4. **Individual Reflections: Developing as a Leader of Change**

- **Team Member 1 - Tanish Panwar:**

  What I learned: It makes me understand the need to be adaptable. Our very flexibility as a team in those moments of things not happening according to plan made all the difference.
  Skill Developed: I refined my creative thinking and fast prototyping in coming up with innovative solutions that have an impact—that get implemented under the pressure of time.

- **Team Member 2 - Pratik Dhurandar:**

  What I learned: I learned that active listening and solutions rooted in real community needs, rather than assumptions, are important.
  Skill Developed: One of the skills I developed was in cross-cultural communication, which was very strong because I had to speak with the community carrying out its activities in Anekal. This was a very good learning experience for me in making the messages and building trust.

- **Member of Team - Gurav Omkar Tanaji:**

  What I learned: From collective team work, one realizes that great value is placed upon clarity, patience, and flexibilities in working under stress.
  Skill Developed: I have improved my capacity for problem solving within a group, an ability that will make me function in an impact-driven team in a sustainable business environment.

- **Team Member 4 - Shreya Gajanan Nimkar:**

  What I learned: The recognition that even a small idea can have huge impacts when locally owned came to me. Community participation is not optional; it is rather non-negotiable.
  Developed Skill: I honed my skills in empathizing with and designing for participation to effect inclusive and sustainable projects.

- **Team Member 5 - Prakash K:**

  What I learned: That the work of SDGs is hard and messy, but surely not impossible. The milestones are chalked out and are followed by a positive outcome.
  Developed Skill: I was faced with yet another developed practice that would really count in the practice of project coordination and iteration of feedback—both handy in the management of some sustainability initiatives in the real world.

- **Team Member 6 - Penukonda Nagamanoj:**

  What I learned: One major understanding for me is that change cannot be brought about just by designing solutions toward sustainability; one has to make people feel heard and included. Skill **Developed Skill:** My community engagement and stakeholder mapping skills have been greatly honed, and that is going to be very special for the execution of a scalable sustainability project.

- **Team Member 7 - Arnav Lai:**

  What I learned: It was through fieldwork that I really got to understand more about this topic than even all the textbooks put together. This really grounded my understanding of how global SDGs play out at local levels.
  Skill Developed: I learned the habit of observation and doing ethnography in connecting the data with human realities—an important aspect of the work of sustainable development.

- **Team Member 8 - Khushi V:**

  What I learned: I discovered that the correct answer can be arrived at for challenges with deep empathy; that is, by a readiness to trim views different from mine.
  Developed Skill: I developed my system thinking to better conceptualize how water, sanitation, waste, and governance are all interrelated. In essence, this is an indispensable tool to help in the formulation of sustainable solutions within any business context.

- **Team Member 9 – Rishi Raj:**

  What I learned: Maintaining the written logs, maintaining the audio interviews and converting it into text format, collecting all gallery material like photos and videos overall documentation process.
  Skill Developed: Documentation strategy, strategic planning and management, Technical Writing Skills, Informational Writing Skills, Proficiency in Documentation tools, regulatory and compliance knowledge
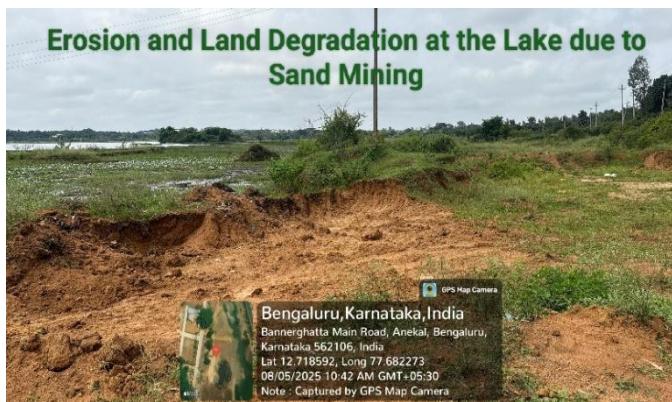
## ❖ Conclusion: From Anekal to the World - Our Path Forward
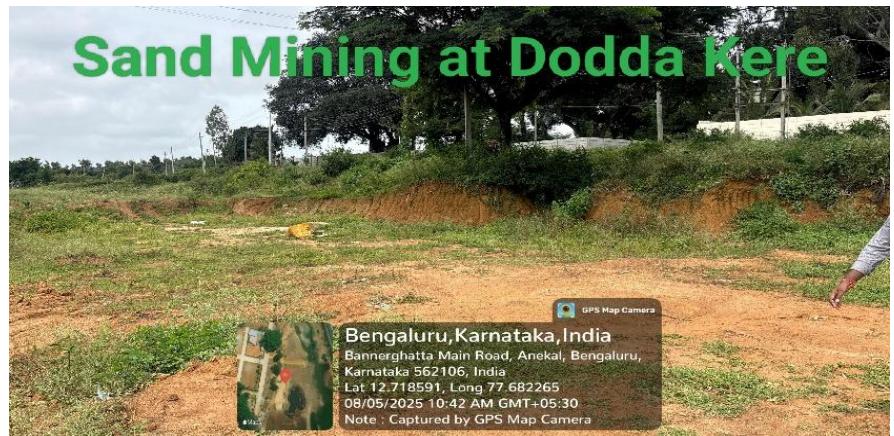
In Anekal, the journey started with the stakeholders' honest listening process toward the voices of women, children, and vendors complaining about poor water and sanitation facilities. It was very clear that poor and improper modes of drinking water availability were weakening the community and making it totally dependent on heavily polluted lakes, further deteriorating people's health, education, and dignity. Our solution was a co-created response to an empathy-driven research need for an answer with an infrastructural backbone that could begin to facilitate behavioral change. The prototype that we have today is extremely simple but represents very powerful ideas: local to global growth of sustainable solutions. We learned that real progress lies not in designing for communities but in engaging them. Waste management, having clean water, and sanitation are all interconnected; thus, so are our responses.

Of course, there were issues with coordination, resources, and time, but we were able to overcome them through a common purpose and teamwork. This project really taught us so much about resilience, adaptability, and that small changes can make such a big difference. It can now easily be replicated in other underserved regions simply by customizing to context. It has to be more transparent, responsible, and committed to community power in driving change as we proceed ahead. From Anekal to the world—our route is clear: build sustainably, empower locally, act globally.

❖ Appendix: Project Artifacts & SDG Research

1) Project Journey of Doddakere lake pictorial memories: -

Erosion and Land Degradation at the Lake due to Sand Mining

Bengaluru,Karnataka,India
Bannerghatta Main Road, Anekal, Bengaluru, Karnataka 562106, India
Lat 12.718592, Long 77.682273
08/05/2025 10:42 AM GMT+05:30
Note : Captured by GPS Map Camera

Aquatic Life Affected by Invasive Water Hyacinth in Anekal Lake

Bengaluru,Karnataka,India
Bannerghatta Main Road, Anekal, Bengaluru, Karnataka 562106, India
Lat 12.718480, Long 77.682400
08/05/2025 10:44 AM GMT+05:30
Note : Captured by GPS Map Camera

Villagers Forced to Dump Garbage by the Roadside
Due to Lack of Waste Collection Services.

Bengaluru,Karnataka,India
Bannerghatta Main Road, Gowrenahalli,
Bengaluru, Karnataka 562106, India
Lat 12.721550, Long 77.682247
08/05/2025 10:33 AM GMT+05:30
Note : Captured by GPS Map Camera

Sand Mining at Dodda Kere

Bengaluru,Karnataka,India
Bannerghatta Main Road, Anekal, Bengaluru,
Karnataka 562106, India
Lat 12.718591, Long 77.682265
08/05/2025 10:42 AM GMT+05:30
Note : Captured by GPS Map Camera

Bengaluru,Karnataka,India
Bannerghatta Main Road, Gowrenahalli,
Bengaluru, Karnataka 562106, India
Lat 12.721478, Long 77.682245
08/05/2025 10:34 AM GMT+05:30
Note : Captured by GPS Map Camera

Taluk Panchayat Office, Anekal

Bengaluru, Karnataka, India
Attibele Anekal Road, Anekal, Bengaluru,
Karnataka 562106, India
Lat 12.712127, Long 77.701407
08/05/2025 10:19 AM GMT+05:30
Note : Captured by GPS Map Camera

Conference with Regional planning Officer, Anekal.

Anekal, Karnataka, India
TALUK PANCHAYAT, ANEKAL Pp62+rcx, Vinayaka Nagar, Anekal, Karnataka
562107, India
Lat 12.712334° Long 77.701316°
05/08/2025 10:21 AM GMT +05:30

Students visit, Taluk panchayat office, Anekal.

Anekal, Karnataka, India
TALUK PANCHAYAT, ANEKAL Pp62+rcx, Vinayaka Nagar, Anekal, Karnataka
562107, India
Lat 12.712334° Long 77.701316°
05/08/2025 10:21 AM GMT +05:30

2) Prototype Virtual Model: -