

**Live-in-Labs® : Field Visit to MGR Nagar, Ramanathapuram**

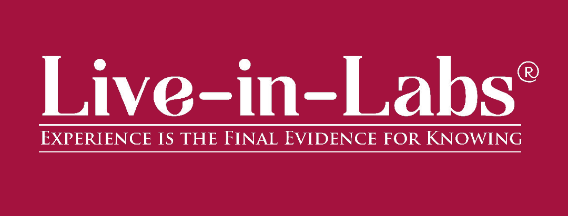
**Activity Category :** Self – Driven Activities

**Event Title :** Live-in-Labs : Field Visit to MGR Nagar

**Dates :** 22/12/2024 - 29/12/2024 (LILA-I ) & 24/04/2025 – 01/05/2025 (LILA-II)

**Occasion/Theme :** Experiential Learning

**Organized by :** Live-in-Labs, Amrita Vishwa Vidyapeetham



**Overview**

The Live-in-Labs® project in ***MGR Nagar, Ramanathapuram*** was carried out by a team of Amrita students under the mentorship **of *Mr. Balakrishnan P***. The focus of the visit was to address the challenge of *Women’s Safety, Dignity and Hygiene* through innovative, sustainable, and community-driven solutions.

The team interacted with villagers, conducted surveys, and studied the socio-economic conditions to identify root causes of the problem. Based on this, solutions such as *Household -Level Sanitation Infrastructure* and *Community-Level Bio-Septic Tank* were proposed. These interventions combine scientific knowledge with frugal innovation, making them both cost-effective and scalable.

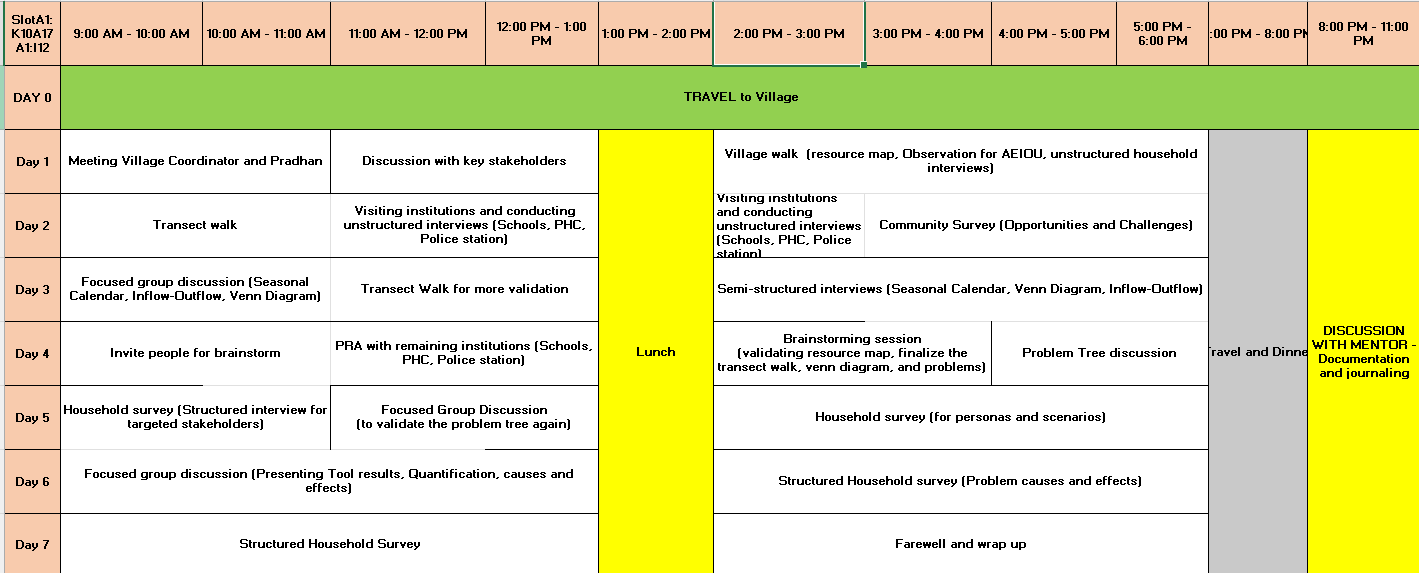
The visit provided the team with hands-on exposure to applying classroom concepts in real-world contexts. Students gained valuable knowledge on design thinking, grassroots innovation, and community engagement. The collaboration between Amrita and international students enriched the process with diverse perspectives, ensuring that the solutions were both technically sound and socially acceptable.

Overall, the project demonstrated how grassroots challenges can be transformed into opportunities for innovation and entrepreneurship. The solutions identified have the potential for further prototyping, incubation, and replication in other rural contexts, aligning with the vision of IIC to foster innovation-driven impact.

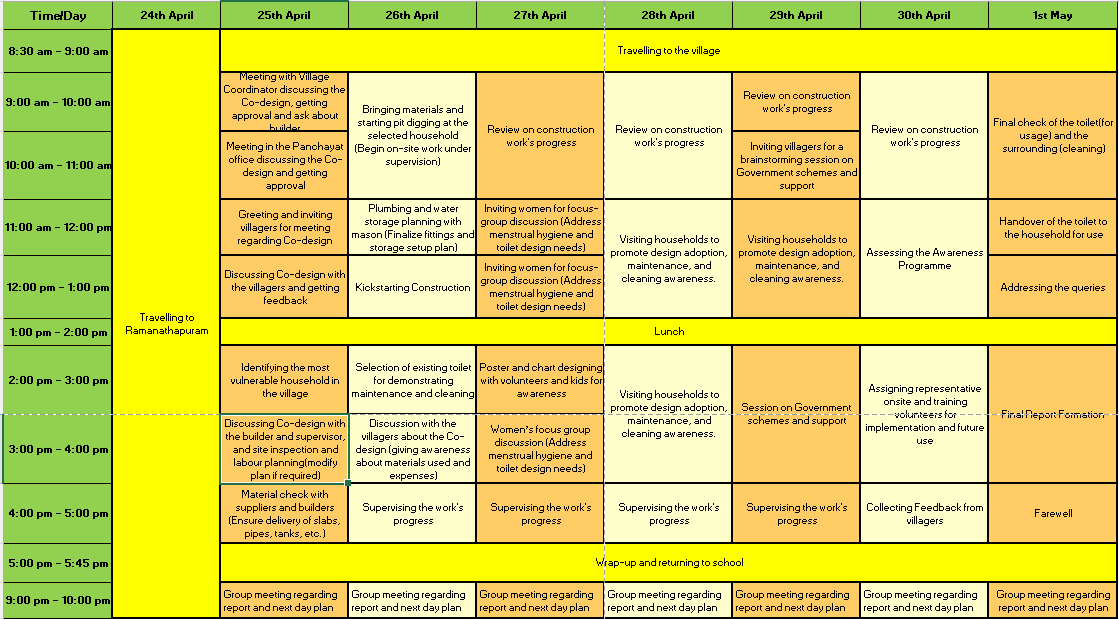
**Planning & Execution**

The project was planned in advance based on the schedule prepared and submitted during the Live-in-Labs® workshop. The schedule served as a roadmap, outlining each stage of the work from preliminary study to field immersion and final reporting. In the initial phase, the team conducted a background study of the village and gathered secondary data to understand the broader context of the problem. This was followed by structured planning of surveys, community interactions, and technical assessments, all aligned with the timelines agreed upon.

Live-in-Labs®-I Schedule:



Live-in-Labs®-II Schedule:



**Impact & Outcomes**

* **Innovation :** The project demonstrated how grassroots challenges can inspire innovative, frugal solutions. By integrating scientific concepts with local knowledge, the team designed interventions such as *Household-Level Sanitation Infrastructure* that were low-cost, adaptable, and scalable. This process highlighted the power of student-led innovation to create practical and impactful models in rural development.
* **Design Thinking :** The outcomes of the project were achieved by following a design-thinking approach. Students empathized with villagers through surveys and discussions, defined the root problems, ideated possible solutions, and tested their feasibility with the community. This systematic method ensured that the solutions were not only technically feasible but also socially acceptable and context-specific.
* **Entrepreneurship Potential :** Several proposed solutions have the potential to evolve into entrepreneurial models or startups. For example, *Community-Level Bio-Septic Tank* can be further developed into a product or service that benefits multiple villages, creating employment opportunities while addressing community needs. This outcome aligns with IIC’s vision of nurturing student entrepreneurship and translating innovation into scalable ventures.
* **Sustainability :** The solutions emphasized long-term sustainability by making use of locally available resources and building capacity within the community. As a result, the interventions can be maintained by villagers themselves without heavy dependence on external support. This ensures that the outcomes continue to create impact even after the project phase ends.
* **Societal Impact :** The immediate impact of the project was raising awareness among community members about alternative and innovative practices. In the long run, the solutions are expected to improve living standards, reduce resource-related hardships, and strengthen the resilience of the village. The project also encouraged local youth to view innovation as a tool for solving their own challenges.
* **Collaboration and Knowledge Sharing :** A significant outcome of the project was the knowledge exchange that took place between Amrita students, international peers, and the local community. This cross-cultural collaboration enriched the learning experience, allowed multiple perspectives to be considered, and helped design solutions that were technically sound, socially relevant, and globally informed.

**Participation**

1. **Student Members** : Conducted Surveys, Identified the Problem and Designed Solutions.

* Aakash B (CB.EN.U4CSE22407) - Dept. of Computer Science and Engineering.
* Akshat Reddy Gaddampally (CB.EN.U4CSE22005) - Dept. of Computer Science and Engineering.
* Arun Karthik R (CB.EN.U4ARE22001) – Dept. of Automation and Robotics Engineering.
* Krishethaa T (CB.EN.U4CSE22229) - Dept. of Computer Science and Engineering.
* Padigala Nandini (CB.EN.U4CSE22533) – Dept. of Computer Science and Engineering.
* Pavitra A (CB.EN.U4ELC22040)– Dept. of Electrical and Electronics Engineering.
* Vishruth Gouda H (CB.EN.U4EEE22155) – Dept. Electrical and Electronics Engineering.

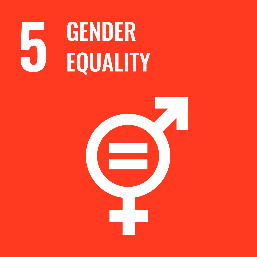
1. **Faculty Member (Mentor)** : **Mr. Balakrishnan P** *Professor Department of Electrical and Electronic Engineering* - Provided continuous guidance and supervision.

**Contribution to SDGs**

The project contributes to several United Nations Sustainable Development Goals (SDGs):



By constructing safe and hygienic toilets with eco-friendly waste management systems, the solution reduces the risk of open defecation, enhances menstrual hygiene management, and improves overall community health outcomes.



The provision of safe, private, and accessible toilets significantly improves the safety, dignity, and empowerment of women. It ensures privacy during menstruation, and supports gender-equitable sanitation practices.



The solution directly addresses the sanitation gap in rural areas by introducing durable toilet infrastructure using compressed stabilized earth blocks (CSEB) and eco-friendly septic systems with soak pits to reduce open defecation and protect groundwater.



By promoting affordable, community-based sanitation infrastructure, the project supports inclusive and sustainable rural development. The durable design ensures long-term usability, contributing to safer and healthier living environments.

**Relevant Images:**



