

A
VILLAGE SURVEY REPORT

A report submitted in partial fulfillment of the requirements for the
Village Survey Program

Submitted

By

NETHRA M (312321205116)

PRIYANKA V(312321205127)

in partial fulfillment

for

the award of the degree of

BACHELOR OF TECHNOLOGY

IN

INFORMATION TECHNOLOGY



St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)

St. Joseph's Group of Institution
OMR, Chennai 600 119

ANNA UNIVERSITY :: CHENNAI 600 025

INDEX

S.No	TABLE OF CONTENTS	PAGE.NO
1	Introduction	3
	1.1 General Information	3
2	Demographic Profile	4
	2.1 Livelihood and Occupation	5
	2.2 Educational Infrastructure	6
	2.3 Health and Sanitation	7
3	Water and Energy Access	8
	3.1 Village Development Priorities	8
4	Social Issues and Observations	9
	4.1 Activities Undertaken	9
5	Literacy Rate	13
6	Proposed Technological Solutions	14
7	Implementation Strategy	19
8	Conclusion	21

Village Survey Report: Thirumanur, Tamil Nadu

1.Introduction

Thirumanur is a modest rural village situated in the Polur Taluk of Tiruvannamalai district, Tamil Nadu. Surrounded by agricultural fields and hillocks, it reflects the traditional lifestyle and challenges of rural India. The village relies primarily on agriculture and daily-wage labor for livelihood. Despite its cultural richness, Thirumanur faces issues in healthcare, education, infrastructure, and employment. This survey aims to identify core problems and propose sustainable, tech-driven solutions for its holistic development.

1.1 General Information

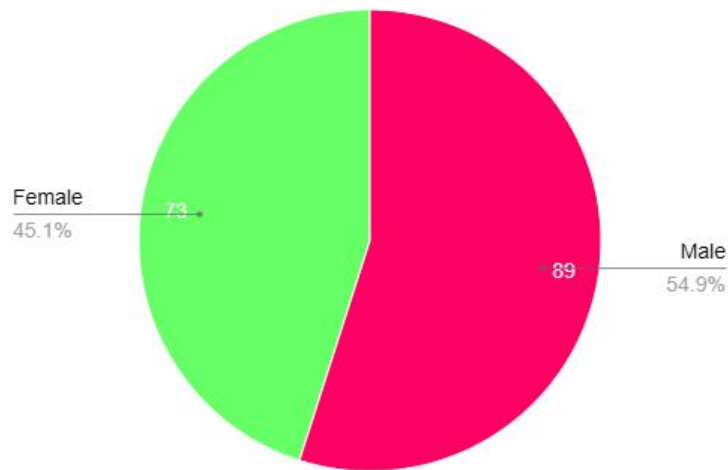
Thirumanur is a rural village in the Ariyalur district, Tamil Nadu. The village spans an approximate area of 495 hectares and falls under the Thirumanur Gram Panchayat. It is situated around 7 kilometers from Thiruvaiyaru and about 24 kilometers from Ariyalur. The terrain is semi-arid, with agriculture being the primary occupation. The village is home to around 6,250 people residing in approximately 1,710 households. Basic amenities like primary education and drinking water are present, but access to healthcare and digital resources remains limited. Thirumanur represents a typical agrarian settlement striving for sustainable rural development



2. Demographic Profile

Thirumanur comprises approximately 1710 households with a total population of around 6520 people. Of this, about 3211 are males and 3209 are females, resulting in a sex ratio of 1031 females per 1000 males. The average household size ranges from four to five members. The literacy rate stands at 79.05%, with male literacy at 85.33% and female literacy at 73.12%. A majority of the working population is engaged in agriculture, manual labor, and small-scale trade.

Gender Distribution in Thirumanur



2.1 Livelihood and Occupation

The primary occupation in Thirumanur is agriculture, with most families engaged in paddy, groundnut, and millet cultivation. During non-harvest seasons, many villagers work as daily wage laborers in nearby towns like Arani. A small section of the population is involved in livestock rearing and small-scale trade. Youth migration to urban areas for industrial jobs is gradually increasing. Limited access to irrigation and seasonal employment remains major challenges affecting income stability.



2.2 Educational Infrastructure

Thirumanur has a Government Primary School that caters to children up to the 5th standard. Beyond this level, students must travel to Thiruvaiyaru or Ariyalur for higher education, often causing dropouts—especially among girls. The school lacks basic facilities like digital classrooms, libraries, and sufficient teaching staff. There is also one Anganwadi Centre for early childhood care and education. Parents express concerns over the quality of education and safety during travel. To improve learning outcomes, there's a need for upgraded infrastructure, teacher training, and digital learning tools.

2.3 Health and Sanitation

Health and sanitation are foundational pillars for the overall development and well-being of a rural community like Thirumanur. Currently, the village lacks a fully functional primary health center, leading to delays in accessing medical care, especially during emergencies. Many residents rely on nearby towns like Arani for healthcare, which can be time-consuming and costly. Common health issues include respiratory infections, malnutrition, skin problems, and waterborne diseases, often caused by poor sanitation and contaminated water sources.

Open defecation, although reduced, still persists in some areas due to the lack of proper toilet facilities and awareness. Waste disposal systems are minimal, with most households dumping garbage in open spaces or burning it. This practice not only harms the environment but also poses serious health hazards. Additionally, women and children are the most affected by inadequate sanitation and lack of clean water.

To address these issues, building individual and community toilets, promoting hygiene education, and providing access to clean drinking water are essential. Periodic health camps should be organized for screening and early detection of diseases. Immunization drives, especially for children and pregnant women, must be strengthened. Creating a clean and hygienic environment through waste segregation and composting should be promoted at the household level.

Introducing **telemedicine services** will bridge the gap in healthcare access and provide timely consultations with doctors. Employing local health volunteers (ASHAs) and training them in basic healthcare delivery can make a big difference. Awareness campaigns on handwashing, menstrual hygiene, and nutrition can empower the community to adopt healthier habits.

In the long run, a holistic approach to health and sanitation will not only reduce the disease burden but also improve productivity, school attendance, and quality of life. A healthy village is the first step toward a strong and vibrant community.

3. Water and Energy Access

Thirumanur relies primarily on borewells and handpumps for drinking water, which become unreliable during the summer months. Irrigation for farming is entirely rainfall-dependent, making agriculture vulnerable to drought. While most households are connected to the power grid, frequent outages disrupt

daily life and farming operations. The village lacks backup power sources and proper water storage infrastructure.

3.1 Village Development Priorities

The village development priorities for Thirumanur should focus on improving infrastructure, such as better roads and reliable electricity, enhancing access to healthcare and clean drinking water, promoting agricultural sustainability with irrigation support, and empowering women and youth through education and skill development programs.



4. Social Issues and Observations

Social issues in Thirumanur include limited access to quality education, especially for girls, with a literacy rate disparity between genders. Women's participation in decision-making processes remains low, and child welfare may require more attention to ensure safety and well-being. There are concerns regarding sanitation and waste management, with some households

lacking toilets. While the community generally feels safe, occasional instances of crime are reported. Increased awareness and access to government welfare schemes could address these challenges.

Interventions and Suggested Solutions

Interventions in Thirumanur should focus on improving female literacy through targeted education programs, providing better sanitation facilities like community toilets, and promoting women's empowerment through self-help groups. Additionally, enhancing healthcare access with mobile health camps, improving irrigation for agriculture, and expanding awareness of government schemes will address key challenges.

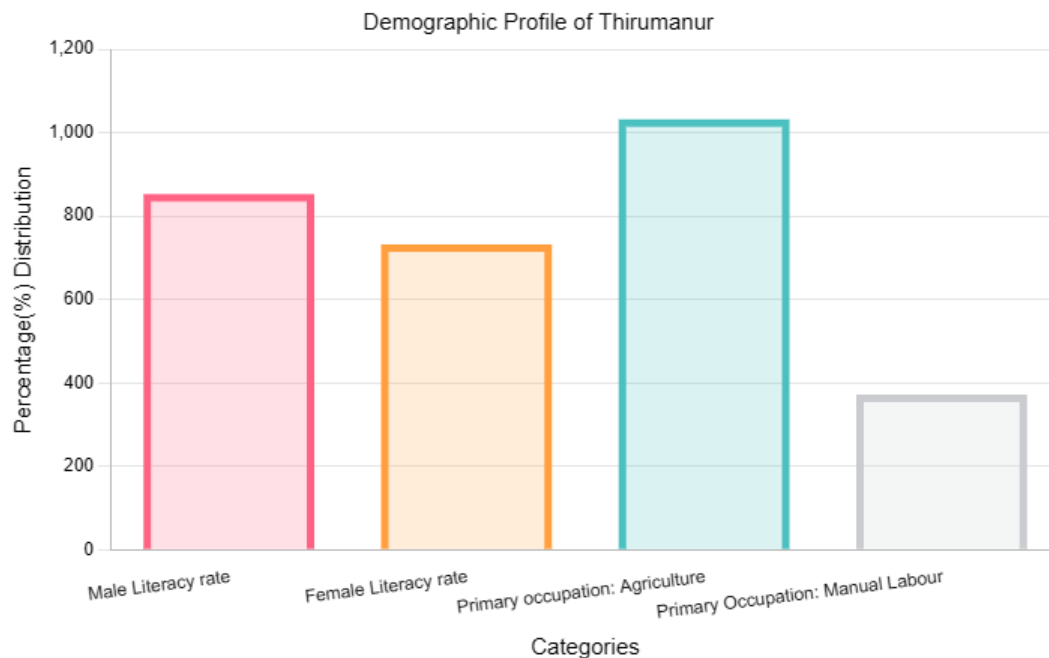
4.1 Activities Undertaken (Proposed)

Proposed activities for Thirumanur include organizing skill development workshops for youth and women to promote self-employment and entrepreneurship. A community-led sanitation drive will improve waste management and encourage toilet construction in households. Health camps will be set up regularly to provide medical check-ups and vaccinations. Agricultural training sessions will be conducted to educate farmers on sustainable practices and better irrigation techniques. Awareness campaigns about government welfare schemes will be launched to ensure better participation and utilization of available benefits.

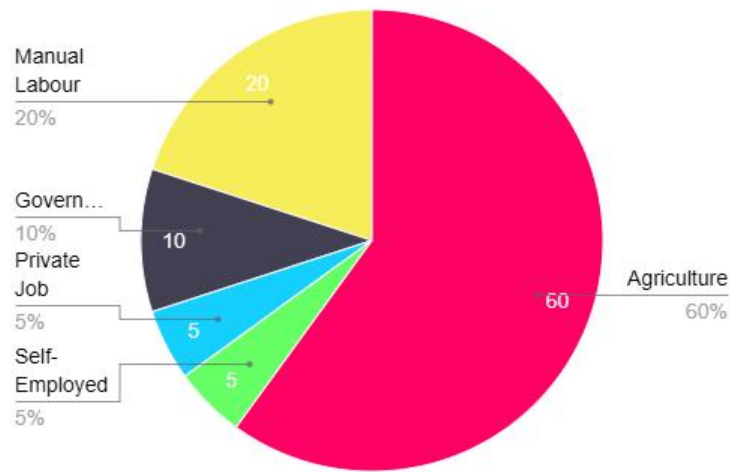
Demographic Profile (Table Format)

Demographic Category	Details
-----------------------------	----------------

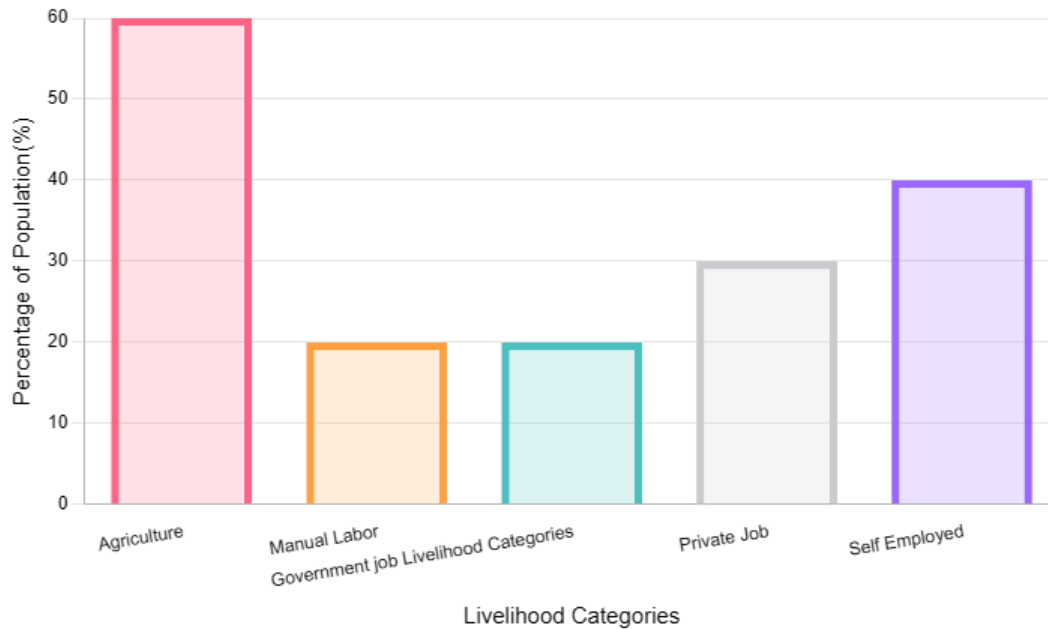
Village Name	Thirumanur
District	Ariyalur
Taluk	Ariyalur
Nearest Town	Thiruvaiyaru (7 km)
Approx. Population	~ 6,520
Total Households	~1,710
Primary Occupation	Agriculture and manual labor
Literacy Rate	79.05% (Male: 85.33%, Female: 73.12%)
Sex Ratio	1031 females per 1000 males
Age Group Distribution	(Data can be collected through survey)
Religious Distribution	(Data can be collected through survey)
Caste Distribution	(Data can be collected through survey)
Household Type	Nuclear, Joint, Extended



Occupation Distribution in Thirumanur



Livelihood Economics in Thirumanur



The **livelihood economics** of Thirumanur are primarily based on occupations like agriculture, manual labor, and other forms of employment. A significant

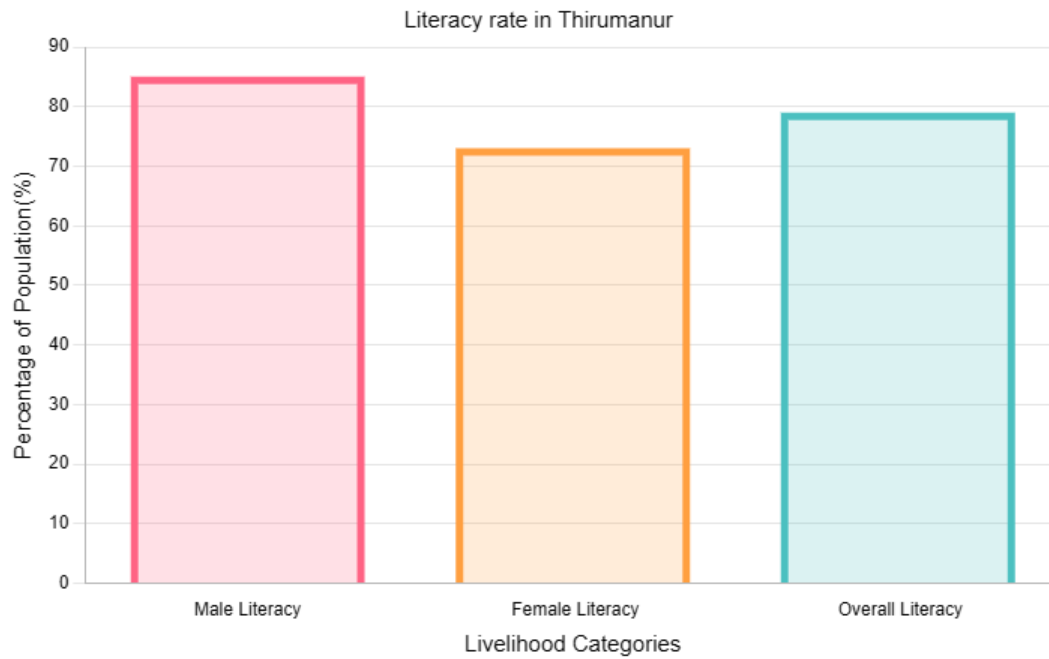
portion of the population (60%) relies on **agriculture** as their primary income source, highlighting the village's dependence on farming. **Manual labor** contributes to about 20% of the livelihoods, showcasing the reliance on physical labor for income. Smaller percentages are engaged in **government jobs** (10%) and **private jobs** (5%), indicating limited access to formal sector employment.

Self-employment also contributes 5%, possibly through small businesses or artisanal work. This distribution reflects the socio-economic structure of the village, where agriculture is the backbone of the local economy.

The remaining livelihoods show that formal employment options are scarce. The community's dependence on agriculture and manual labor may suggest a need for skill development programs to diversify income sources and improve economic stability.

5. Literacy rate

The literacy rate in Thirumanur stands at approximately 68%, with a noticeable gap between male and female literacy. **Male literacy** is higher at 85.33%, while **female literacy** is comparatively lower at 73.12%. This gender disparity reflects the cultural and societal barriers that may limit educational access for girls. Efforts to improve female education and address barriers such as early marriage, lack of resources, and social expectations are essential for bridging this gap. The overall literacy rate, while relatively decent, suggests room for improvement in terms of both quality and accessibility of education. The village's literacy rate is a vital indicator for understanding educational progress and challenges. Initiatives focused on improving literacy rates, especially among women, will be crucial for the village's development



6. Proposed Technological Solutions

Proposed technological solutions for Thirumanur can help drive development across various sectors. E-learning platforms could be introduced to enhance education, especially for girls, providing accessible resources for remote learning. Mobile health applications can facilitate healthcare services, offering virtual consultations, medical advice, and health monitoring. The introduction of smart agriculture technologies, like weather forecasting apps and soil monitoring tools, can optimize farming practices and increase crop yield. Digital literacy programs will bridge the technology gap, equipping both youth and adults with essential tech skills for future job opportunities. Water management systems can use IoT-based sensors to optimize irrigation

and monitor water usage. Online skill development platforms can empower youth and women by offering courses in technical and entrepreneurial skills. Additionally, solar-powered solutions can be implemented to address electricity shortages and provide sustainable energy. Waste management systems can be enhanced with digital tracking for better collection and recycling processes. Lastly, e-governance platforms can improve access to government services and increase transparency in welfare schemes.

1. Telemedicine Services

Telemedicine services Thirumanur can revolutionize healthcare delivery, particularly in a rural setting where access to medical professionals and healthcare facilities may be limited. By leveraging digital platforms, telemedicine allows patients to consult with healthcare providers remotely through video calls, phone consultations, or even messaging services. This is especially important for Thirumanur, where many residents may not have easy access to urban hospitals or specialists. Through telemedicine, basic health checkups, follow-ups, and non-emergency consultations can be conducted efficiently, reducing travel time and associated costs for patients.

From patients, such as heart rate, blood pressure, and glucose levels. Such tools can be integrated with mobile health apps, enabling continuous monitoring of chronic conditions like diabetes or hypertension, which are common in rural areas. Telemedicine services can also facilitate health education and awareness programs by providing information about preventive care, hygiene, maternal health, and nutrition, which are vital in improving overall health standards in the village.

2. Smart Classrooms and E-Learning

Smart classrooms and e-learning initiatives in Thirumanur can play a transformative role in bridging the rural-urban education gap. By integrating digital tools like interactive whiteboards, projectors, tablets, and internet access into classrooms, students can experience a more engaging and effective learning environment. These tools make lessons more visual and interactive, helping children grasp complex concepts with ease, especially in science and mathematics. Teachers can also benefit from digital content and teaching aids that improve instructional quality and classroom management.

E-learning platforms further extend educational opportunities beyond school hours, enabling students to access lessons, tutorials, and practice materials at home or in community learning centers. These platforms can be especially beneficial for students preparing for board exams or competitive exams, offering them access to quality content that might otherwise be unavailable in rural schools. Additionally, e-learning can support adult education and digital literacy programs, empowering villagers of all ages to upgrade their skills and knowledge. With proper infrastructure and training, smart classrooms and e-learning can significantly uplift the educational landscape of Thirumanur.

3. IoT-based Water Management

IoT-based Water Management can be a game-changer for Thirumanur, especially considering the village's dependence on agriculture. By using Internet of Things (IoT) sensors to monitor soil moisture, water levels, and weather conditions, farmers can optimize irrigation schedules and reduce water wastage. These systems can automate pump operations, alert users to leaks or overuse, and ensure that crops receive the right amount of water at

the right time. This technology not only conserves a vital resource but also reduces electricity usage, lowers input costs, and increases crop yield. For a village like Thirumanur, where many rely on borewells and rainfall, efficient water usage is critical. The impact includes increased agricultural productivity, improved groundwater levels, and long-term sustainability in farming. Moreover, real-time data from these systems empowers farmers with better decision-making, helping them adapt to climate variations and ensure food security for the community.

4. Waste Management System

A Waste Management System is crucial for maintaining cleanliness, hygiene, and a healthy environment in a village like Thirumanur. Currently, due to the lack of proper waste segregation and disposal methods, garbage is often dumped in open areas or burned, leading to air, water, and soil pollution. This can cause several health issues such as respiratory problems, infections, and contamination of groundwater. Introducing a structured waste management system can help segregate waste at the household level into biodegradable and non-biodegradable categories, making it easier to recycle and compost. The system can include door-to-door waste collection, dustbins for public places, and the establishment of a village-level composting unit for organic waste. Recyclable items such as plastics and metals can be collected and sold to recycling companies, generating additional income for the panchayat or local self-help groups. Biodegradable waste, such as kitchen and farm waste, can be converted into compost, which can then be used by local farmers, promoting organic farming practices. Awareness programs and workshops can be conducted to educate villagers about the importance of proper waste disposal and cleanliness. In the long run, a well-implemented waste management system can significantly improve the health and sanitation standards in the village. It can reduce mosquito breeding grounds, prevent the spread of diseases, and enhance the

aesthetic appearance of the village, making it cleaner and more liveable. Moreover, involving local youth and women in these activities can create employment opportunities. Integration of smart monitoring tools, like GPS tracking of garbage collection and reporting apps, can further improve efficiency and accountability in managing village waste.

5. Solar Power Solutions

Solar power solutions offer a sustainable and cost-effective energy alternative for Thirumanur, especially in areas facing frequent power cuts or limited electricity access. Installing solar streetlights in key areas like village roads, school surroundings, and public spaces can improve safety and mobility after dark, reducing dependence on grid electricity. Homes and schools can benefit from rooftop solar panels, which provide consistent power for lighting, fans, and basic appliances.

In the agricultural sector, solar-powered irrigation pumps can significantly reduce electricity costs and allow farmers to irrigate their fields even in remote areas without grid access. This not only ensures better crop yields but also supports water conservation by integrating solar pumps with drip irrigation systems.

Solar solutions also empower self-sufficiency—reducing energy bills, minimizing carbon footprint, and creating local jobs through maintenance and installation training. Over time, solar power can improve the overall quality of life in Thirumanur, ensuring reliable, clean, and green energy for a brighter and more resilient rural future.

6. Skill Development via Online Platforms

In a rapidly changing world, access to digital skills is essential for economic growth and employment opportunities. Many residents of Thirumanur lack

the skills needed for the growing digital economy. By leveraging online platforms, a range of skill development programs will be introduced to provide residents with the knowledge and tools required to excel in various fields.

7. Implementation Strategy:

- **Baseline Survey and Community Engagement:**

Conduct a detailed village-level survey to understand the specific needs, challenges, and resources. Organize awareness sessions and meetings with village leaders, SHGs, and youth groups to ensure community participation and ownership.

- **Partnership with Stakeholders:**

Collaborate with government departments (like Rural Development, Agriculture, Health, and Education), NGOs, and private tech companies for technical support, funding, and capacity building.

- **Phased Implementation Approach:**

Roll out projects in phases—starting with pilot programs (e.g., smart classrooms in one school, solar panels in a few households) and scale up based on feedback and performance. Prioritize urgent needs like sanitation and water management in Phase 1.

- **Training and Capacity Building:**

Provide hands-on training for teachers, farmers, local workers, and youth to manage and sustain the new systems—like e-learning tools, IoT-based farming, telemedicine devices, and solar panels.

- **Monitoring, Evaluation, and Feedback:**

Establish a local monitoring team with regular progress reviews. Use

feedback loops and tech-based dashboards to track outcomes, address issues promptly, and ensure long-term sustainability of the projects.

Phase 1: Focus on Healthcare, Education, and Sanitation

- **Healthcare:** Introduce **telemedicine services**, conduct health camps, distribute basic medical kits, and improve access to maternal and child healthcare.
- **Education:** Set up **smart classrooms**, provide e-learning tools and digital literacy programs for students and teachers.
- **Sanitation:** Build household and community toilets, initiate waste segregation and composting units, and conduct awareness drives on hygiene and cleanliness.

Phase 2: Infrastructure and Energy Improvements

- **Infrastructure:** Improve village roads, install solar street lighting, and ensure clean drinking water supply through RO plants or rainwater harvesting.
- **Energy:** Deploy **rooftop solar panels**, solar-powered irrigation pumps for farmers, and promote energy-saving practices in homes and schools.

Phase 3: Monitoring, Evaluation, and Scaling Up

- **Monitoring:** Create a **village development dashboard** to track real-time progress with KPIs for each sector.

- **Evaluation:** Periodic reviews involving community feedback, surveys, and impact assessments.

8. Conclusion:

In conclusion, the transformation of Thirumanur is not just a dream, but a tangible opportunity to create lasting change. By focusing on key areas like healthcare, education, energy, and sanitation, we can uplift the lives of its residents and create a sustainable future. The power of technology, when adapted to local needs, can be the catalyst for this change, providing essential services and improving quality of life. Telemedicine can bridge the gap in healthcare, smart classrooms can bring the world to the students, and solar power can ensure a reliable and eco-friendly energy source.

However, the true success of this endeavor lies in community involvement. When people are actively engaged in the process, it fosters a sense of ownership, pride, and responsibility. This collective effort will ensure that the transformation is not just temporary, but sustainable for generations to come. By adhering to the principles of resilience, empowerment, and equality, Thirumanur can serve as a beacon of rural development for others to follow.

As we invest in the village's future, we are, in turn, investing in the nation's future. Every step we take toward improving Thirumanur is a step toward a stronger, more unified India. It is through these small, purposeful changes that we will see profound results. Let us move forward, hand in hand, with the belief that through unity, dedication, and smart planning, we can bring about a transformation that reflects the true spirit of India—one village at a time.