



**SUSTAINABLE  
DEVELOPMENT**  
**GOALS**  
**COMPENDIUM**



# CONTENTS



06

**ADHIKAAR**

14



**A FULLER LIFE**

22



**EFFECTIVE WOMEN  
EMPOWERMENT**

09



**EMPOWERING  
WOMEN THROUGH  
SUSTAINABLE  
AGRICULTURE**

19



**LAB ON BIKE**



34

**EMPOWERING RURAL  
INDIA THROUGH  
RENEWABLE  
MICRO-GRIDS**

29



**RAIN WATER  
HARVESTING:  
MATHANI'S STORY  
OF TRANSFORMATION**

38

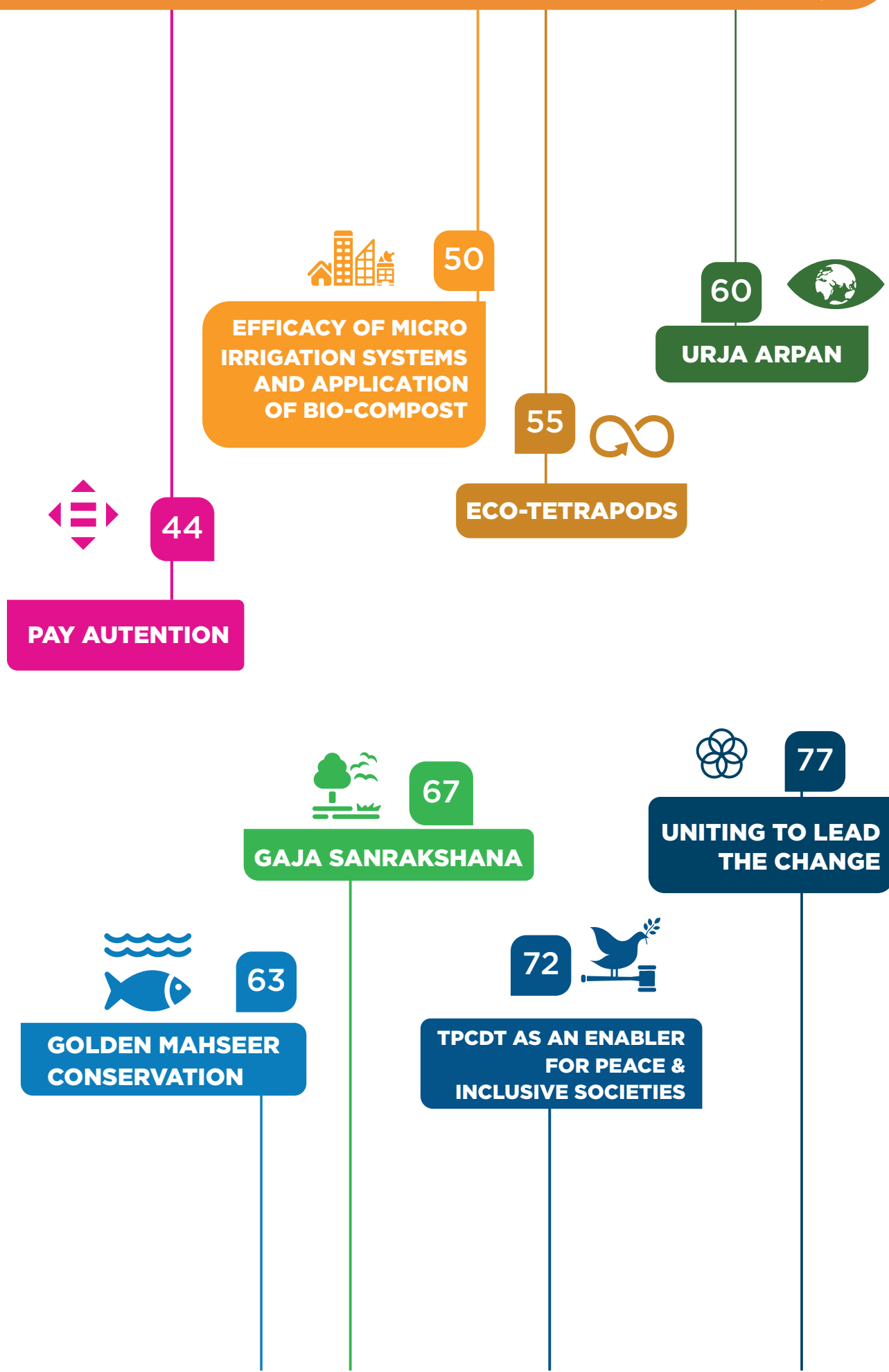


**ROSHNI**

41



**INTELLICHECK**





## Foreword By CEO & MD

In 2015, in a historic commitment to global peace and prosperity, all UN Member States adopted the 2030 Agenda for Sustainable Development. A decade later, these goals form the bedrock for all conversations about development that aim to change things for the better, for people and the planet. The Goals enshrine the fundamental belief that the only way to meaningfully tackle complex issues like poverty is through an intersectional approach that also addresses access to education, sanitation, affordable and clean energy, and economic growth.

This belief is key to solving the unique challenges that India faces as one of the fastest growing economies of the world. These challenges tend to be layered and differ from region to region, state to state, household to household. Solving them needs not just creative action but a willingness to come together, to listen with an open mind, and to build resilient structures that empower people and the planet to grow and thrive. From government and industry to individuals, we all have an important role to play, and this belief is resonant with Tata Power's actions for sustainable, inclusive, and lasting development.

Founded more than a century ago for powering Mumbai and India's progress through clean energy, Tata Power stands true to its commitment today as the first utility in the country to have an SBTi approved Net Zero pathway. Not only are we gearing to achieve Net Zero by 2045, we have also committed to becoming Water Neutral, and ensuring Zero Waste to Landfill and No Net Loss to Biodiversity by 2030. In addition to this, we are also collaborating with a diverse range of stakeholders to ensure wide reaching impact across all SDGs – we are well on our way to “lighting up a billion lives”.

This SDG Case Study Compendium is a collection of these very stories of change. They capture the ingenuity, passion, and relentless effort across a diverse group of stakeholders that makes scalable and meaningful difference to the lives of thousands of people across the country. Through integrated programmes in skilling, livelihood support, and behavioural change, we are seeing ripple effects that we did not anticipate. Not only is this a testament to the interlinked nature of the goals, but also to the power of meaningful collective action and its ability to achieve outcomes beyond what is thought possible.

I invite you to read this compendium not as a tale of work that has been completed, but as an ongoing journey, as we invite you to contribute to this transformation. There is a lot that we can do, together, and I hope this collection inspires you to see that no action is too small. While we continue to make investments in our people and our communities, we invite you to join us in shaping and making a sustainable tomorrow.

Dr Praveer Sinha





## Foreword By **CHRO, Chief Sustainability & CSR**

Sharing knowledge and uplifting others — that's how we multiply impact.

In today's world, where climate change, resource scarcity, and social inequality pose urgent challenges, sustainability is no longer a choice, it is an imperative. Tata Power's approach to sustainability is deeply integrated across our operations. It goes beyond compliance and carbon footprints. It is about having the foresight to build an inclusive ecosystem that works in synergy with the environment and the communities.

Sustainability at Tata Power is about Leadership with Care. Through good governance and action-oriented strategies, we are transforming challenges into opportunities and goals into actions.

A core pillar of this transformation is our unwavering focus on people through skilling, re-skilling, and unlocking green jobs for India's workforce. The Tata Power Skill Development Institute, launched as part of our Centenary Year in 2015, has trained over 3.4 lakh individuals in green and sustainable trades as of FY25. Platforms like 'Pay Attention' help us expand inclusivity by supporting neurodiverse individuals with our strong network of 280+ organizations, while our manufacturing plant in Tirunelveli proudly operates with a workforce comprising over 80% women, showcasing our commitment to gender equity and empowerment. Complementing these efforts, our employee-led 'Climate Crew' initiative engages 52% of our workforce in driving climate-positive actions at work and beyond through curated engagement and measured through an AI enabled platform.

We believe that ESG is no longer the job of a select few, it is everyone's responsibility and therefore sustainability and ESG learning have been integrated across our leadership and employees. Programs like the Roshni Integrated Vocational Training Centre have empowered 39,000 women, while our active participation in forums like CII-NCE and CII-IBBI reflects our belief in sharing best practices at industry level. Recognitions such as the Mahatma Award for CSR Excellence 2024 and the ESG Excellence Award by KPMG are milestones that reaffirm our journey.

This compendium is not just a reflection of our work, it is a call to action. Each case study is a demonstration of how far we've come and an inspiration for how much further we can go when we act with purpose, lead with foresight, and collaborate across boundaries. Through every sustainability initiative documented here we are building a better tomorrow, one innovation, one partnership, and one empowered life at a time. To us the true measure of success lies in the people we uplift and the legacy we leave behind.

Mr Himal Tewari



## SDG 01

### No Poverty

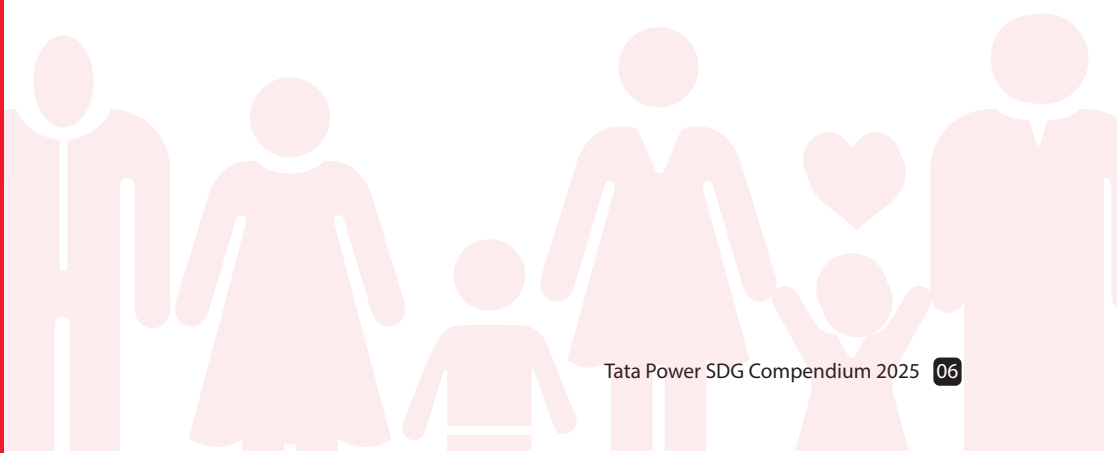


#### Financial Inclusivity for Social Equity

India's financial system has played a pivotal role in driving the nation's economic growth over the past two decades. However, despite this progress, a significant portion of the population still lacks access to formal financial services. Many marginalized communities face obstacles in accessing entitled benefits, primarily due to documentation challenges.

Tata Power acknowledged the critical challenge faced by these communities and launched its flagship initiative, Adhikaar in 2017.

- Adhikaar is a people-centric development initiative that promotes financial inclusion, social welfare, and developmental entitlements among communities by providing documentation support and linking them to relevant state and national government schemes.
- Tata Power spearheaded this initiative with the aim of empowering individuals, particularly women, the elderly, differently-abled, disadvantaged, and vulnerable sections of marginalized communities.



## Project impact

Adhikaar has positively influenced more than 14 Lakh beneficiaries till date in 10 states by facilitating high, medium, and low value schemes. This encompasses universal health coverage and access to affordable medicines and vaccines, educational scholarships for deserving students, agriculture related schemes for farmers, and many other state and central benefits:

- **High & medium value scheme:** Pradhan Mantri Jan Arogya Yojana (Ayushman Bharat Yojana), Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Kisan Samman Nidhi Yojana, Pradhan Mantri Fasal Bima Yojana etc.
- **Low benefit scheme:** PAN Card, Digital Health ID, Linking Aadhar & PAN, India Post Payment Bank, E-Shram Card, Bank linkages with SHG, etc.

## Key success factors: What worked?

- **Primary assessment:** Development of a monitoring method deployed across multiple locations in India, capturing basic demographic data of communities and mapping them to various Government Schemes based on eligibility and entitlements.
- **Community engagements:** The community willingness to actively engage in this initiative to become part of the inclusivity process based on stakeholder engagement conducted by Tata Power across its locations.
- **Collaborations:** Tata Power collaborated with local NGOs and Common Service Centers (CSC) to leverage existing networks and community resources, thereby amplifying reach and impact.
- **Technological integration:** Technology played a significant role in screening and identifying relevant government schemes, enabling efficient understanding of eligibility criteria for individuals.
- **Employee involvement:** Tata Power encouraged volunteering efforts where 200+ employees (Adhikaarpreneurs) provided invaluable support to communities, aiding them in filling application forms and liaising with Government offices for timely entitlement disbursement.

## Challenges and lessons learnt

- Unavailability of relevant paper work with individuals was a major road-block. A lot of it had to be prepared from scratch by the Adhikaarpreneurs.
- Extensive follow-up with government departments was required to facilitate the processing of applications.
- Limited literacy skills among women Self-Help Group (SHG) members hindered their ability to operate bank accounts effectively. 50+ Women Literacy Centres were established to empower women with functional literacy skills.

## Impact stories

Bela Gorai is a 23-year-old lady from the Ubchuria village of Jharkhand. She is a daily wage labourer and earns ₹5000 per month that financially supports her family. During a door-to-door screening, our volunteer, Mina, connected with Bela and briefed her about the Pradhan Mantri Suraksha Bima Yojana, which provides coverage for accidental death and disability as an essential financial protection against unexpected circumstances. The low premium makes it accessible to individuals with modest income.

Mina screened Bela Gorai and supported her in gathering the required documents to apply for the Pradhan Mantri Suraksha Bima Yojana which is an accidental insurance scheme with a death cover of up to ₹2 lakhs and disability cover of up to ₹1 lakh upon premium insurance of ₹12. On successful processing of her application, Bela expressed her gratitude towards Mina and Tata Power for helping her secure her future by getting this insurance cover.





SDG 02

Zero Hunger

## EMPOWERING WOMEN THROUGH SUSTAINABLE AGRICULTURE

In Jharkhand, over 60% of women and 65% of children suffer from anemia, primarily due to poor dietary habits, as revealed by the National Family Health Survey-V. Recognizing this critical issue, Tata Power launched an initiative aimed at addressing nutritional deficiencies while empowering women economically. By promoting the cultivation of fruits, vegetables, and mushrooms in backyard farms, the initiative created a dual impact: improved nutrition and sustainable income generation for women.

Tata Power provided holistic support to women Self-Help Groups (SHGs), through:

- **Skill building:** Training sessions on food-stock management, revenue generation, and quality assurance.
- **Value addition:** Workshops on producing marketable items like mushroom powder, mushroom biscuits, and banana chips.
- **Business development:** Equipping participants with entrepreneurial skills such as interloaning, saving, costing and marketing.
- **On-the-ground support:** Continuous guidance from agri-experts to improve crop yield and farm efficiency.



# Project impact

The initiative has yielded impressive results over the past three years:

- **Participation:** 2,000 SHG members from 15 villages around Jamshedpur have joined the program.
- **Nutri-farms:** 40 SHGs have established nutrition-focused farms cultivating bananas, papayas, watermelons, and vegetables.
- **Awareness:** Over 5,000 community members have been educated on malnutrition and anemia.
- **Health improvements:** Periodic surveys on anemia helped track and demonstrate the program's health benefit; 70% of participating women have either significantly reduced the severity of anemia or become anemia-free.
- **Economic benefits:** Household incomes have risen by ₹3,000 on average through the sale of vegetables, fruits and mushrooms, with some families earning ₹8,000 to ₹10,000 by focusing on mushroom cultivation.
- **Child nutrition:** Families involved in the program report improved dietary diversity and better nutrition for children.

## Key success factors: What worked?

The initiative's success can be attributed to the following factors:

### Adequate infrastructure:

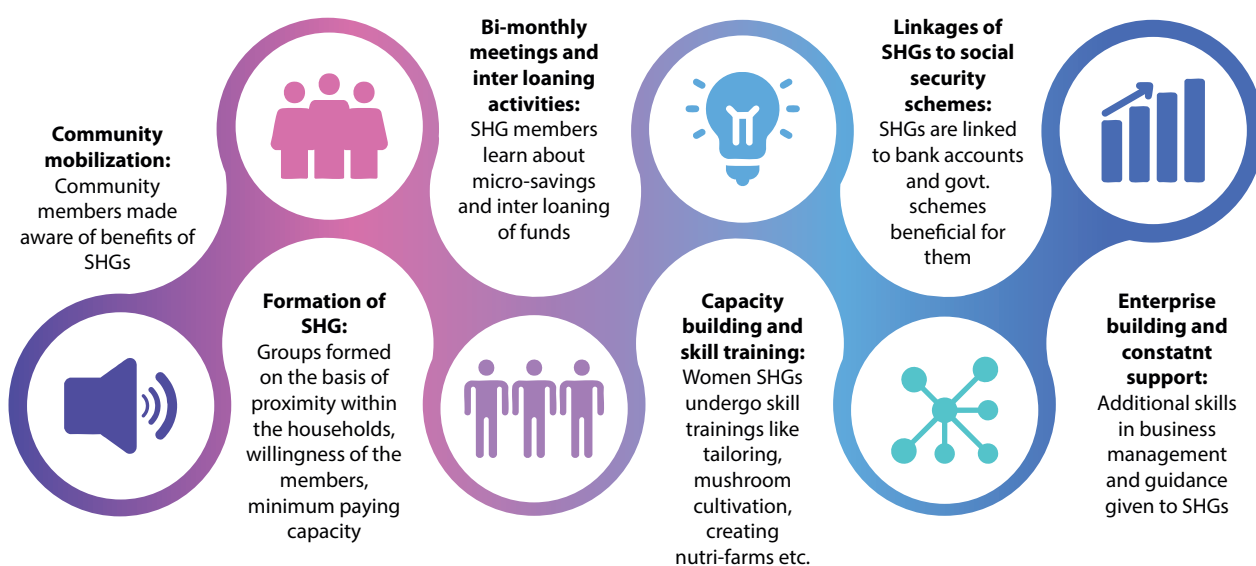
- Establishment of seed bank, enabling free exchange of high-quality vegetable seeds.

### Leadership and employee engagement:

- Exposure visits for SHG members with senior management fostered motivation and learning.
- Employee volunteers and their families actively visited the project sites to guide and support the women SHG members.

## Training and implementation:

- Women were trained in essential entrepreneurial skills such as interloaning, saving, costing, marketing and stock management, supported by on-farm assistance to ensure practical application.
- Regular expert sessions conducted by agri-experts to improve yield and enhance sustainable farming practices, ensure optimal resource utilization, and address farmers' challenges effectively.



## Challenges and lessons learnt

- **Lack of capital and resources:** Limited access to quality seeds and fertilizers initially hampered progress. Tata Power Jojobera helped overcome this crucial roadblock by linking the women SHGs to government's Krishi Vigyan Kendras ensuring affordable agriculture material.
- **Space constraints:** Compact backyard farms were designed to address the scarcity of farmland.



## Impact stories

Basmati Gagrai, a member of the Ho Samaj Urja Mahila Samuha in East Singhbhum, Jharkhand, lives with her family of five, including a toddler, elderly in-laws, and a husband who works as a daily wage laborer. Unable to participate in NREGA work due to her caregiving responsibilities, Basmati, along with her neighbors and extended family, formed the Ho Samaj Urja Mahila Samuh and initiated interloaning activities.



At the start of the intervention, Basmati also battled moderate anemia. With a ₹50,000 loan from her SHG, she established a mushroom farm and a nutri-farm in the backyards of 10 women, while also starting a small grocery store within her home's limited space. Women in her SHG now earn an average of ₹8,000 per month through the sale of mushrooms and vegetables, and Basmati herself earns an additional ₹3,500 from her grocery store. The Ho Samaj Urja Mahila Samuh is now expanding its activities and inspiring more women to join, fostering both economic and social empowerment in the community.









## SDG 03

### Good Health And Well-being



## A FULLER LIFE

At Tata Power, we are committed to fostering a positive environment in our workplaces that promotes holistic wellbeing of our employees. We believe that “Health is a state of complete harmony of Body, Spirit & Mind” and our ‘A Fuller Life’ program emphasizes the importance of focusing on different dimensions of wellbeing to enhance employee engagement and productivity through proactive and preventive care.

Under this program, Tata Power provides aid to employees to improve their holistic wellbeing, including physical, social, financial and mental wellness. From mindfulness workshops and nutritional guidance to energizing events like cyclothons and marathons, ‘A Fuller Life’ has become a cornerstone of our culture.

This transformation was driven by a systematic approach encompassing four critical steps:

- **Assessments:** Evaluated health practices, infrastructure, and employee needs at both individual and organizational levels.
- **Planning and management:** Secured leadership support, formed wellness committees, crafted strategies, and partnered with experts to create a strong foundation.
- **Implementation:** Rolled out policies, structured program calendar, benefits, and facilities like incentivizing good health for employees, managers, and leaders. Key initiatives included setting up infrastructure such as gyms, providing access to healthcare, improving canteen offerings, and maintaining effective communication.
- **Evaluation:** Monitored progress through feedback, measured health outcomes, and analysed improvements in productivity and reductions in healthcare costs.

A Fuller Life stands as a testament to the organization's commitment towards ensuring access to resources, knowledge, and opportunities to lead fulfilling lives for the employees and family.

## Project impact

- **Holistic wellness programs:** Tailored unique initiatives for employees, that were well received and appreciated within Tata Power and the Tata Group are: Holistic Wellbeing of Women, Wellbeing @ Remote Sites, Family Wellbeing & Engagement.
- **Increased engagement:** Initiatives like cycling tours, yoga sessions, and happiness activities received overwhelming participation showcasing the positive reception of these programs.
- **Support systems:** Employee Assistance Programs (EAP) provided 160+ counselling sessions, offering much needed mental health support.
- **Sustainability focus:** Promoted eco-friendly practices such as cycling and hydration through Detox Water Stations.

## Key success factors: What worked?

A few of the many efforts aimed at empowering employees to lead healthier, more fulfilling lives while driving organizational success.

### 1. Comprehensive initiatives:

#### Physical wellness

- Annual health check-ups for employees and health care facilities for employees and dependents.
- A to Z Healthy Eating (Eat Wise) series educating employees about nutrition through interactive content tailored for Indian diets weekly.
- H2Ocourse (Detox Water Stations): Infused water with lemon, mint, cucumber. Promoting not only hydration but also improved health, rated 4.5/5 by employees.
- Doctor Speak and Health Awareness Days: Regular sessions focused on global health issues like hepatitis, heart health, hypertension, and diabetes.

### **Mental wellness**

- Peer Support Program: Trained 45 employees as Mental Health First Aiders in collaboration with NIMHANS. Empowered employees to support colleagues facing mental health challenges.
- Dedicated 24\*7 counselling services for employees. Regular webinars and sessions on mental health related topics to build awareness.

### **Social wellness**

- Celebrations and initiatives like get togethers, potluck, trekking, sports, competitions, team building games on important days like International Week of Happiness at Work, Children's Day, Women's Day, World Health Day etc.

### **Financial wellness**

- Financial literacy sessions are conducted for all employees and specific cohorts like new joiners and women employees.
- Collaborations to provide special discount to employees.

### **2. Engaging activities:**

- International Week of Happiness at Work: Activities like sound therapy, stand-up comedy, photo contests, and potlucks fostered joy and collaboration.
- Magical Excursions – Mumbai on Wheels: A cycling tour engaging 60 trainees, fostering physical wellness and sustainable transport awareness.
- Self-Care Day: Offering employees spa and wellness services at discounted rates.
- Setting up gyms in offices even at remote locations to ensure accessibility to fitness resources.
- Medical centres with a team of in-house doctors for employees and dependents.



## Challenges and lessons learnt

- Limited accessibility for remote employees was a challenge which was mitigated by expanding the reach of programs through digital platforms and localized events increased inclusivity.
- It was difficult to gain consistent engagement over time. Incorporating employee feedback into campaigns enhanced participation and satisfaction.
- To fine-tune programs and maximize impact, regular feedback was collected to course-correct.





**Financial Wellness**

Here are some simple ways to mitigate financial stress and cope with the pressures of managing your finances.

**Understand and manage your emotions better**

Attend the webinar: Mastering Emotional Balance

26/06/2024  
04:00 to 05:00 PM

[Register now!](#)

**Are you a leader seeking ways to handle stress better?**

Attend the session: Coping with Stress & Anxiety

Intended Audience: HRs, Managers, and Business Leaders

And learn about:

- mental health and stressors
- recognizing signs of stress and anxiety
- impacts on daily life, and strategies to manage it effectively

June 06, 2024 | 04:00 to 05:00 p.m.

[Register now!](#)





## SDG 04

### Quality Education

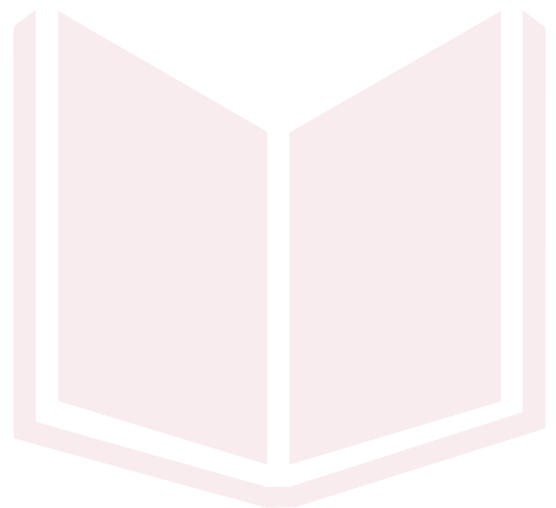


## LAB ON BIKE

To nurture conservation champions, advance STEM (Science, Technology, Engineering, and Mathematics) education, and raise awareness about learning disabilities, Tata Power partnered with regional public institutions, community groups, schools, anganwadis, self-help groups, and public health workers.

At the heart of this effort is Lab on Bike (LoB)—a unique CSR initiative designed to deliver hands-on learning to the last mile. By bringing science-based education directly to students in grades 5 to 10, the project has sparked interest in clean energy concepts while strengthening analytical thinking and solution-oriented skills.

Beyond STEM, the initiative also supports functional and digital literacy for both children and adults, provides scholarships under affirmative action, and connects communities to vital government and social welfare schemes.



## Project impact

- The Lab On Bike initiative has reached over 292 schools across India, benefiting more than 38,000 children in government schools spanning 28 districts in 11 states. It integrates holistic development through hands-on science learning and clean energy table-top models, fostering curiosity and practical understanding among students.
- Moreover, LoB promotes an interdisciplinary approach that merges STEM with arts, humanities, and social sciences, encouraging creativity, critical thinking, and problem-solving skills.

## Key success factors: What worked?

Several elements have contributed to the success of Lab On Bike:

- **Consistent engagement:** Regular visits by teacher collaborators to schools, ensuring proper STEM tool utilization for the targeted age group
- **Awareness campaigns:** Outreach programs to spark interest and encourage participation in STEM education
- **Community mobilization:** Efforts to involve teachers and parents, emphasizing the significance of STEM for young learners
- **Employee involvement:** Tata Power employees volunteering as mentors and guest speakers, enriching the STEM experience for students
- **Encouraging innovation:** Organizing inter- and intra-school competitions to boost morale and inspire solution-oriented thinking among students





## Challenges and lessons learnt

- **Identifying community schools:** Selecting appropriate schools within the community faced hurdles due to various factors such as location, resources, and accessibility
- **Building rapport:** Establishing trust and rapport with the community schools required time and effort to ensure effective collaboration and communication
- **Ensuring timely routine plan integration:** Incorporating STEM activities into the existing education curriculum while maintaining a smooth routine required careful planning and coordination

## Impact stories



Spandana, a young innovator from Rudra Gowda Memorial School in Sindhanur, Karnataka, won the top prize for her ground-breaking project: Mobile Microscope. Fascinated by the world of microorganisms, Spandana didn't just stop at one type of microscope—she crafted four! From a tiny pocket microscope to an adjustable one, a projector microscope, and even a mobile microscope, her ingenuity knew no bounds.

But Spandana's brilliance goes beyond her inventions. By making these low-cost microscopes accessible, she's ensuring that learning opportunities reach far and wide, breaking barriers and inspiring a new generation of curious minds.



SDG 05

Gender Equality

## EFFECTIVE WOMEN EMPOWERMENT

In the manufacturing industry, gender imbalance often stems from deep-seated stereotypes rather than intentional discrimination. Traditionally, manufacturing was associated with hard manual labour, physical endurance, and long hours on assembly lines—an image that persists even today. However, times are changing and Indian women are breaking stereotypes, overcoming societal pressures, and paving the way for others with their trailblazing achievements.

Tata Power Renewable Energy Limited's subsidiary, TP Solar Limited, has established a state-of-the-art 4.3 GW Solar Cell and Module manufacturing facility in Tirunelveli, Tamil Nadu. This facility is part of Tata Power's vision to create India's largest single solar manufacturing hub, with a production capacity of 4 GW each for solar cells and modules. A pioneering initiative, 80% of the operators at this plant comprise women, primarily from the Tirunelveli district. These women actively contribute to key technical departments such as production, process, and quality, while also breaking barriers by taking on roles traditionally held by men, including security and gardening.

With robust safety measures in place, the facility exemplifies inclusivity and empowerment by prioritizing the recruitment of women, particularly those with technical backgrounds. The company collaborated with educational institutions, including government ITIs and private colleges, to recruit diploma and engineering students. Through Tata Power Skill Development Institute (TPSDI), the recruitment process follows a structured approach:



## Iron Women program

TP Solar Ltd. is committed to fostering a healthier and stronger workforce, with a key focus on empowering women through the Iron Women Program. Launched in August 2023, this initiative has made significant strides in supporting women's health, particularly in addressing iron deficiency and anaemia.

- **Initial health screening:** Blood tests to assess haemoglobin levels and overall nutritional status.
- **Personalized nutrition guidance:** Tailored advice from our Chief Medical Officer, focusing on iron-rich foods and strategies for optimal absorption.
- **Customized supplementation plans:** Individually adjusted supplementation based on each participant's specific needs.
- **Regular medical consultations:** Ongoing support and medical guidance to track progress and adjust treatment plans.
- **Quarterly haemoglobin check-ups:** Monitoring haemoglobin levels at regular intervals to evaluate improvement and ensure sustained progress.

### Year-to-Date (YTD) Performance (As 31st March 2025):

- **Total participants tested (Batch 1 to 11):** 581
- **Total identified anaemic participants onboarded to the Iron Women Program (YTD):** 96
- **Overall Success Rate (YTD):** 35% (participants having reversed anaemia & maintained normal levels for 12+ months)

## Key success factors: What worked?

Operating in a tier 3 city where women working—especially in shifts—face societal resistance, TP Solar Ltd. has broken barriers by employing 80% of its operator workforce from the local women population. This includes providing first-time employment opportunities, supporting first-generation graduates, and inspiring more women in the district to seek employment.

TP Solar has implemented several impactful initiatives to foster employee well-being, inclusivity, and skill development. These include:

- **Learning and development:** TP Solar prioritizes skill development by signing an MoU with the District Collectorate Office to promote green jobs and empower the local workforce. Employees gain cross-learning opportunities through exposure to the Bangalore manufacturing plant, adopting industry-leading practices. Holistic development is ensured through targeted training programs that address individual and functional learning needs.
- **Inclusive workplace:** The workplace fosters inclusivity through gender sensitization programs and assistive technologies for persons with disabilities (PwD). Communication and accessibility are enhanced with sign language training, creating an equitable environment for all employees.
- **Health and wellness:** Initiatives like the Iron Women program improve the haemoglobin levels of women, while partnerships with NIMHANS ensure mental health wellness. The Peer Support Programme provides counselling and moral support to employees.
- **Safe working environment:** GPS and CCTV-assisted transportation ensures secure doorstep pick-up and drop-off for employees after shifts, prioritizing their safety and convenience.

## Challenges and lessons learnt

While establishing a large manufacturing facility in a tier-3 city presented several unique challenges, the company implemented strategic solutions to address these obstacles and create a supportive and inclusive work environment.

- Female apprentices from Tirunelveli and nearby districts faced communication difficulties with male supervisors from other states, leading to coordination issues. After work English-Tamil classes were conducted to promote glocalization and reduce linguistic barrier.
- Onboarding new female employees to work under male supervisors from different states created a disconnect in the workplace dynamics. Special trainings for peers and supervisors were conducted to implement behavior-based programs that led to improved supervisor-employee relationships and ensured an inclusive environment.
- Lack of financial literacy and life skills, safety related concerns and health aspects were contributing to limited personal and professional growth. Initiatives like Iron-women, self-defence trainings, and financial literacy sessions helped retain talent, and empowered female employees.

## Impact stories

### Swetha's story of gumption and determination

Swetha has found where she truly belongs – thriving at TP Solar, growing in career and confidence. Swetha, a first-generation graduate from Palayamkottai, Tirunelveli, completed her B.Sc. and initially worked as a lab chemist. She later pursued her M.Sc. at Manonmaniam Sundaranar University, Tirunelveli. During her sixth semester, she secured a job opportunity at TP Solar through the Naan Mudhalvan initiative. She joined as a trainee, successfully completing 15 months of training, and has now progressed to the role of trainer at TP Solar.

Previously, job seekers from Tirunelveli had to travel to Tuticorin or Madurai in search of employment. However, with TP Solar establishing its presence in the district, local graduates now feel assured of job opportunities closer to home. Initially, night shifts were met with hesitation in Tirunelveli, but TP Solar has addressed these concerns by providing safe transportation and supper for night shift employees. This initiative has reassured parents, encouraging them to allow their daughters to take up night shifts, knowing their safety is prioritized.

Beyond career growth, TP Solar has played a crucial role in Swetha's personal development, equipping her with life skills, self-defence training, and financial literacy. She takes immense pride in being able to support her family financially and is grateful for the opportunities the company has provided. For Swetha, TP Solar is not just a workplace—it is a platform that has empowered her, both professionally and personally.

### Esakki Ammal's journey that tugs at the heartstrings

Esakki Ammal, from the tranquil village of Thachanallur in Tirunelveli district, exemplifies resilience and determination. Despite the challenges of living with a hearing impairment, she has forged a successful career in the solar industry, working at TP Solar's module and cell manufacturing unit.

From a young age, Esakki refused to let her disability define her potential. She was determined to become financially independent and create a meaningful career. Her opportunity arrived through the Naan Mudhalvan initiative, which aims to provide employment and education to underprivileged communities in Tamil Nadu. When she learned about job openings at TP Solar, she saw it as a life-changing chance.

Upon joining TP Solar, Esakki was deeply moved by the company's commitment to inclusivity. Training programs were conducted in sign language by experienced professionals, ensuring she received the same high-quality education as her peers. What truly set TP Solar apart for Esakki was the respect and equality she experienced. TP Solar ensured full accessibility and equal opportunities for her. She was valued not for her disability, but for her skills, dedication, and potential.

Reflecting on her journey, Esakki shares, "TP Solar has not only given me a job but has nurtured my personal and professional growth. Here, I am treated as an equal, working towards shared goals with my colleagues."

Esakki's story proves that with the right support and an enabling environment, individuals with disabilities can thrive and make remarkable contributions. Today, she stands as an inspiration, demonstrating that determination, opportunity, and equality can turn challenges into success.













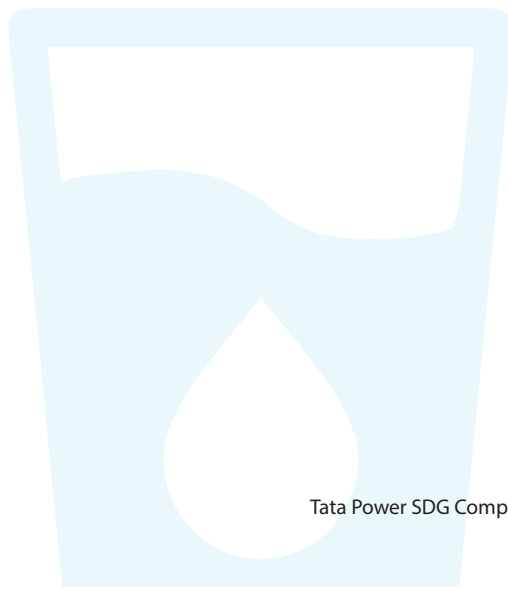
SDG 06

Clean Water  
And Sanitation

## RAIN WATER HARVESTING: MATHANI'S STORY OF TRANSFORMATION

Nestled in the drought-prone Ahmednagar district of Maharashtra, Mathani village was once gripped by chronic water scarcity, affecting both daily life and agricultural livelihoods. Cracked fields, dried-up wells, and repeated crop failures had become a harsh reality for its residents. But change began when Tata Power, in partnership with NABARD and the local community, launched a water resource management initiative that transformed the village's future.

A detailed assessment of Mathani's water infrastructure revealed three check dams in a dilapidated state, riddled with breaches and sediment build-up, and no longer capable of holding water. The first major breakthrough came with the restoration of these check dams, restoring their water storage capacity and making them functional once again. To complement this, five recharge shafts were constructed to harvest rainwater and replenish the aquifer. These innovations not only boosted the village's groundwater levels but also made water available year-round, even during dry spells.



### Key actions taken:

- **Water resource assessment:** Identification of critical locations for water body rejuvenation and aquifer recharge.
- **Community engagement:** Mobilization and training of local stakeholders to lead and maintain the interventions.
- **Technical and financial support:** Restoration of check dams, construction of recharge shafts, and deployment of groundwater recharge solutions.
- **Awareness and capacity building:** Workshops and village campaigns promote a culture of water conservation and community stewardship.

## Project impact

- **Enhanced water availability:** Rejuvenation of water bodies and aquifer recharge have significantly increased the water availability for drinking and irrigation, alleviating the perennial water scarcity.
- **Improved water quality:** Reduced contamination and a higher water table have provided clean, reliable water sources.
- **Agricultural prosperity:** Increased groundwater levels have expanded irrigated land, turning once-barren fields into productive agricultural spaces.
- **Mathani village outcomes:**
  - 3 check dams restored
  - 5 recharge shafts constructed
  - 30% increase in water availability
  - 25% rise in crop yields
  - 20% boost in farmers' income



## Key success factors: What worked?

- **Community-driven approach:** Active participation by local communities in project planning, implementation, management and maintenance.
- **Collaborative partnerships:** Synergies between Tata Power, NABARD, and local authorities ensured effective resource allocation and expertise sharing.
- **Technical expertise:** Specialized knowledge in aquifer recharge and water body rejuvenation led to sustainable, scalable solutions.
- **Sustainable practices:** Awareness programs encouraged community-led water conservation and resource management.

## Challenges and lessons learnt

- **Initial resistance:** Tata Power faced initial resistance from few villages as they were unaware of the benefits of the project. Active awareness sessions, inclusion of all stakeholders and collaborative participation proved essential.
- **Selection of sites:** During the construction of recharge shaft, certain sites had to be prioritized basis the geographical constraints.
- **Technical challenges:** Tata Power faced a range of technical challenges during construction of recharge shafts such as hard rock formation and water logging. These issues were addressed with the support of technical expertise, which played a crucial role in resolving such obstacles effectively.









SDG 07

Affordable  
And  
Clean Energy

## EMPOWERING RURAL INDIA THROUGH RENEWABLE MICROGRIDS

Access to affordable, reliable, and sustainable energy is critical for rural development. However, in India, approximately 2,500 villages remain non-electrified, while 50,000 villages face unreliable power supply. Tata Power Renewable Microgrid Ltd. (TPRMG) has risen to address this challenge by implementing a scalable and sustainable business model. The mission is to alleviate energy poverty and empower underserved rural communities through renewable microgrids.

TPRMG has installed over 200 renewable microgrids in 10 districts of Uttar Pradesh and Bihar. The grids leverage solar energy, complemented by advanced battery storage systems and bio-methane-based gas generators. Beyond addressing energy gaps, TPRMG has also integrated social and economic programs, such as employing local youth for grid management and empowering women through income-generating activities.

The microgrids operate as a comprehensive solution, ensuring 24x7 power supply through solar power systems backed by zinc-gel batteries, flow batteries, and bio-methane gas generators. This hybrid approach not only ensures energy reliability but also reduces dependence on fossil fuels.

## Project impact

The introduction of renewable microgrids has revolutionized rural communities, delivering reliable electricity to over 2.85 lakh individuals. This access has enhanced safety, hygiene, and overall living standards, with many households experiencing electricity for the first time since independence. The initiative has also fostered environmental sustainability by abating approximately 8,260 tons of CO<sub>2</sub> emissions annually and saving 31 lakh litres of diesel each year. Additionally, over 5,000 consumers have adopted energy-efficient LED lighting, while 600 have benefitted from energy-efficient appliances, motors, and pumps, significantly boosting their business profitability.

Agriculture has greatly benefitted, with 115 farmers gaining consistent power supply for irrigation, resulting in improved outcomes. Consumers transitioning from diesel engines to microgrid-powered motors have achieved 25-30% cost savings, while others have reduced energy expenses by 15-25%. Village-Level Entrepreneurs (VLEs) have witnessed financial growth, earning an additional ₹15,000 per month. Women, in particular, have gained financial independence through income-generation programs, while trained local youth have been employed as business partners, creating a sustainable employment model.

This holistic initiative demonstrates the transformative potential of renewable microgrids, addressing long-standing gaps in basic infrastructure while fostering environmental and economic resilience. By integrating community participation, it has set a benchmark for inclusive development and sustainable growth in rural areas.

## Key success factors: What worked?

Several strategies contributed to the success of TPRMG's renewable microgrids initiative:

- **Stakeholder engagement:** Collaborative dialogues with village leaders (Pradhans) and transparent negotiations with farmers to lease land for 25 years ensured smooth project implementation.
- **Community participation:** Local youth and unemployed individuals were employed, fostering a sense of ownership and reducing social resistance.
- **Compact design:** Efficient plant designs reduced the land footprint and minimized market and local political resistance.
- **Pre-emptive measures:** Building transmission and distribution networks before plant installation prevented logistical and community pushback.

## Challenges and lessons learnt

- **Limited power capability for high-load appliances:** The 30 kWp solar microgrids struggled to power heavy equipment like flour mills and rice hullers. This challenge was mitigated by optimizing load distribution and upgrading inverter capacity.
- **Phase imbalance in distribution networks:** Load imbalances across the three-phase network caused system tripping. Reconfiguration of phase-wise load distribution addressed this issue effectively.
- **Flood impacts on remote plants:** Torrential floods disrupted plant operations in certain areas. Elevated installations and reinforced structures to safeguard plants from flood damage was implemented.
- **Theft of solar panels and batteries:** Theft attempts jeopardized operational efficiency and incurred additional costs. Enhanced security measures were introduced.
- **Low shelf life of lead-acid batteries:** Frequent battery replacements increased operational costs and downtime. Alternative technologies like flow batteries and zinc-gel batteries were deployed to enhance performance and longevity.





एवाइटिंग या शुभारम्भ करते अतिथिगण

पतौली-खोरी (एसएनबी)। देव सोपानी के अग्नार पर पूर के तीन डिक्टिल एम फ्लेव ब्लाक पतौली के रंगत गंध व टाट कावर सोलर मॉडरॉडिड जंगलेंड प्लाट एण्डर से एक साव 5। फो को जगन बिग मग। इस प्लाट को उद्घाटन केवल पुन चर नवतीनी सोरीने नर नर पड़े एंड एंड टाट पाका रिन्गुलन मॉडरॉडिड के मुह (हॉर्नरी) अलिकोरी बनेन बरु हरा से गिनन मॉडरॉडिड बिग मग।

मछीमपुर जिले का विकास गैर में लक्ष्य के अनुसार इस पहल में 150 घरों को कनेक्ट कर का काम किया जाएगा, जिसमें 110 घरों के कनेक्शन हो चुके हैं। इस अगुवाई पहल क्षेत्र जून डिजिटल स्मार्ट जिलेन को परिकल्पना को जमीनी स्तर पर संचार किया है जो

विकास अधिकारी मिनीली ने यह बात पूरी प्रदेश के अन्य जगहों के लिए एक रोम मॉडल माना हो सकता है।

हटा पाकर रीन्यूअल साइक्रोसाइट के द्वारा सौर ऊर्जा को ख़ुशाम देना, स्वयं सहायता समूह को आर्थिकतः बनाम, डिजिटल लेनदेन को ख़ुशाम देना करना एवं स्मॉल पैर फ़ायदा को

अन्य जनघर्षों के लिए  
साबित हो सकता है  
रोल मीडल

**लक्ष्य के अनुसार इस सही में 150 पर्यो को मिलेगा कनेक्शन**

[illegible]



## SDG 08

### Decent Work And Economic Growth

## ROSHNI

Tata Power, through its CSR initiative - Roshni, is empowering individuals to achieve economic independence by combining strategic business objectives with Corporate Social Responsibility. The initiative focuses on upskilling semi-literate and literate individuals, with a special emphasis on youth and women, enabling them to secure sustainable livelihoods.

To address the growing demand for skilled labour across diverse regions, Roshni has established Vocational Training Centres (VTCs) and partnered with community institutions including Industrial Training Institutes, colleges, Self-Help Groups, and local governance bodies such as panchayats. These collaborations enable Roshni to offer a variety of skill development programs such as handicraft and crochet making, food industry training with Taj SATS catering services, tailoring, beautician training, digital literacy, and advanced computer education, equipping individuals with practical skills.

## Project impact

- The Roshni initiative has transformed the lives of thousands across the nation. With vocational training centres operating in 15 districts across 11 states, it has created opportunities for youth to thrive in the burgeoning green job sector and explore entrepreneurial ventures.
- In FY23 alone, more than 39,000 individuals benefitted from the program, underscoring its significant impact on fostering economic growth and personal development.

## Key success factors: What worked?

Several factors have contributed to the program's success:

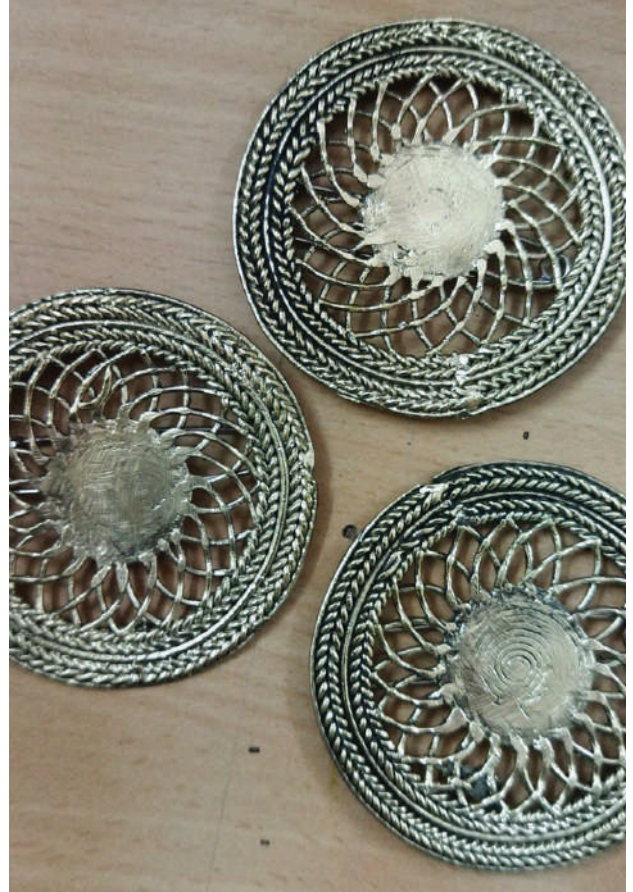
- **Addressing skill gaps:** By aligning training programs with the growing demand for skilled labour, Roshni equips individuals with the critical skills needed to thrive in today's job market.
- **Diversifying income sources:** In areas reliant on seasonal income, the initiative has opened avenues for stable and varied employment opportunities.
- **Promoting safe work environments:** Ensuring that youth and women can pursue jobs both locally and beyond in safe, hygienic conditions has been instrumental in achieving program objectives.

## Challenges and lessons learnt

During the implementation, the initiative encountered challenges that offer valuable lessons:

- **Job availability:** Upskilling is essential, but ensuring sufficient job opportunities to support the growing workforce remains a challenge in certain areas.
- **Agricultural reliance:** Many regions remain dependent on agriculture. Limited local opportunities for skilled workers necessitate broader economic diversification. Course material should also be continuously updated to reflect advancements in relevant fields.
- **Impact tracking:** While placements are a priority, tracking long-term outcomes becomes difficult when beneficiaries migrate for employment.
- **Expanding green jobs:** Developing sustainable, green employment opportunities in remote areas is vital to reducing dependence on traditional sectors.







SDG 09

Industry,  
Innovation  
And  
Infrastructure

## INTELLICHECK

### Revolutionizing Solar Module Fastening

Tata Power has conceptualised and developed a first- of- its-kind digital innovation, INTELLIcheck, a digital smart device for module fastening, aimed at addressing the critical issue of improper fastening in Solar Module Mounting Structures (MMS). Designed to tackle challenges posed by adverse climatic conditions, such as heavy winds, storms, and cyclones, this solution ensures the structural stability and longevity of solar arrays. Remote solar plant locations often necessitate large-scale MMS fastening, a task that traditionally relies on manual monitoring, which is time-intensive, error-prone, and inefficient. With the rapid expansion of solar projects, Tata Power recognized the need for a scalable and reliable solution, leading to the development of INTELLIcheck.





# Benefits of INTELLICHECK

## Digitized, wireless functionality

- A smart device integrated with GPS for traceability and real-time data capture
- Geo-location tagging for successfully tightened fasteners, with automatic data uploads to the cloud, eliminating manual inspections

## Smart torque technology

- A torque-set tool that connects wirelessly to the device
- Ensures precise and uniform tightening with accuracy

## Operational excellence

- Increased First-Time-Right Quality (FTRQ) with cloud-based data collection
- Reduced Cost of Poor Quality (COPQ) by enhancing reliability and efficiency

# Project impact

The adoption of INTELLIcheck has transformed the conventional manual MMS fastening process, yielding significant operational and qualitative benefits:

**Time efficiency:** Reduced time required for module fastening

**Productivity boost:** Increased productivity through minimal manual intervention and enhanced traceability

**Stakeholder satisfaction:** Improved project execution, quality assurance processes, and customer satisfaction due to high-quality, timely project delivery

# Key success factors: What worked?

**Collaborations:** Quality Assurance, procurement, execution, and contractor teams collaborated effectively during prototype testing, ensuring robust product development tailored to real-world site challenges

**Technical support:** Comprehensive IT support for software and device installations enabled seamless integration of electronic components

# Training and knowledge sharing:

Structured user trainings, on-site sessions, and digital DIY user manuals empowered teams to handle the product confidently and safely

# Challenges and lessons learnt

The product faced various challenges during its development and deployment:

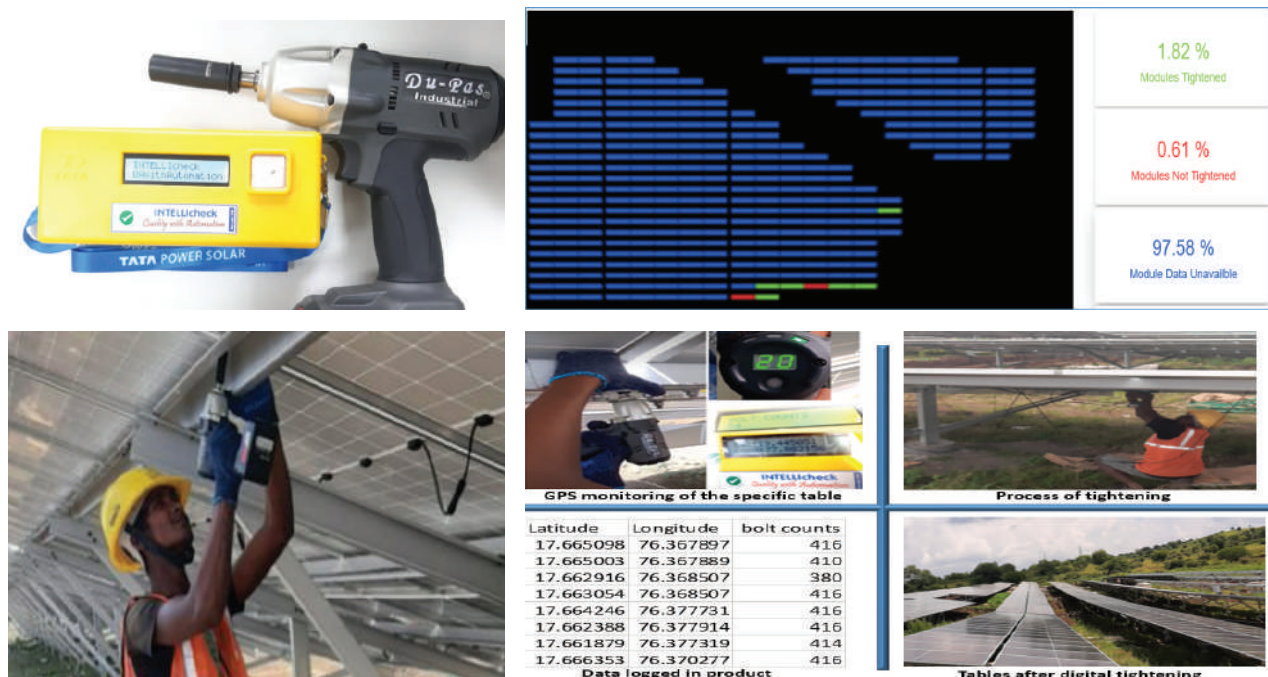
- **Supplier identification:** Finding a reliable torque-tool supplier was challenging but eventually addressed through diligent evaluation
- **Remote deployment:** Limited internet connectivity at remote sites required adaptive logistical planning
- **Intellectual property protection:** Securing patents and trademarks for the innovation posed initial hurdles
- **Skilled usage:** Ensuring skilled handling of the tool was critical, prompting extensive training sessions and safety guidelines.

# Implementation sites

INTELLiCheck has already been successfully deployed at several solar power plants, demonstrating its transformative potential:

1. Akkalkot (100 MW)
2. Himayatnagar (70 MW)
3. Jamkhed (270 MW)
4. Achegaon (200 MW)
5. Bikaner - 1 (200 MW)
6. Bikaner - 2 (100 MW)
7. Radhanesda (100 MW)

By enhancing accuracy, reducing time, and ensuring quality, INTELLiCheck has set a benchmark for operational excellence in the solar energy sector.





## SDG 10 Reduced Inequalities

### **PAY AUTENTION** — A different mind is a gifted mind —

#### Advancing Equality for Neurodiverse Communities in India

In India, approximately 1 in 68 children are affected by autism, yet access to essential resources, information, professional care and early intervention remains limited, especially in rural and underserved areas. Many parents and caregivers face challenges due to insufficient support for early diagnosis, therapy, and education, compounded by a shortage of special educators, trained therapists, and comprehensive care systems for neurodiverse individuals.

To bridge this gap, Tata Power launched Pay Autention – An Autism Support Network in partnership with the Centre for Autism and other Disabilities Rehabilitation Research and Education (CADDRE) in 2022. The initiative aims to create a supportive ecosystem for neurodiverse individuals and their families, leveraging a "phygital" (physical + digital) approach. Through its one-stop platform, Pay Autention connects stakeholders, fosters awareness, and promotes inclusive services, enabling communities across India to better support neurodiverse individuals in homes, schools, workplaces, and public spaces.

# Project impact

Since its inception, Pay Attention has made a meaningful difference across India by raising awareness, promoting access to services and building a support network for neurodiverse communities:

- **Empowered over 2,700 public workers, and trained over 300 caregivers and practitioners.**
- **Established a network of 500+ organizations**, including NGOs, corporates, and government bodies working in neurodiversity support.
- **Engaged 18 Tata Group companies** in awareness initiatives, community events, and inclusive fairs.
- **Reached 18,000+ community members** through awareness workshops, street plays, and campaigns.
- **Developed E-Sanidhya - one stop digital solution supporting 10,000+ parents, caregivers and multidisciplinary professionals** for early identification and interventions.

## Key success factors: What worked?

- **Collaborative ecosystem:** By integrating diverse stakeholders, such as therapists, NGOs, corporates, and government bodies, Pay Attention has created a robust support network to amplify resources and services for a wider reach.
- **E-Sanidhya digital innovation:** The Pay Attention neurodiversity care platform, developed with Ministry of Social Justice and Empowerment, Tata Power Community Development Trust, and Tata Elxsi, offers a one-stop solution for neurodiversity support, enabling access to resources and therapy in even the most remote areas.
- **Community-based awareness:** Interactive workshops, street plays and other public events have fostered community acceptance and greater awareness around neurodiversity.
- **Corporate engagement:** Active partnerships with Tata Group companies has expanded the program's reach and encouraged inclusive practices through volunteering, fun fairs, and awareness campaigns.

## Challenges and lessons learnt

- **Limited resources in remote areas:** The availability of special educators, therapists, and diagnostic tools particularly in rural regions remains a challenge, affecting timely diagnosis and intervention.
- **Social stigma and lack of awareness:** Persistent misconceptions about autism lead to stigmatization and hinder access to early diagnosis and support for neurodivergent individuals and their families.
- **Digital barriers:** While digital tools like E-Sanidhya have extended the program's reach, gaps in internet connectivity and digital literacy limit its impact in some areas.

## Impact stories

### Power of Collaboration – Building India's Bridgital Neurodiversity Support Network

Millions of parents across India struggle to access the resources, information, and professional support necessary to assist their neurodivergent children. These challenges are further compounded by a lack of awareness and the prevalence of improper diagnoses.

Meena Verma was browsing the Internet at her home in Gandhinagar to help her 10-year-old autistic twin boys when she spotted a Facebook post showcasing Tata Power's Pay Attention helpline. She dialed 1800-2099-488 and hoped against hope that someone on the other side would be able to help.

"My kids are non-verbal, and I'm constantly looking for speech therapies and professionals who can guide us," Meena said. The helpline connected her to a trained psychologist and therapist who have since been instrumental in her children's care.

"Pay Attention gave me the hope and resources I needed. It is like a lifeline for families like ours," she says.

Pay Attention is building India's first bridgital neurodiversity support network, aiming to harness the power of collaboration and urging more organizations to support this cause.



## Anganwadi Workers as Catalysts of Change

Pay Attention empowers Anganwadi workers through workshops, certification programs, and awareness campaigns. These frontline community workers are trained to identify early signs of autism and provide initial support to families.

Rohini Sonkavade, a 33-year-old Anganwadi teacher from Mumbai, shares her experience: “I learned about autism for the first time during a workshop. Thanks to the training, I identified early signs in a two-year-old boy brought to the Anganwadi and connected his family to the Pay Attention helpline. Today, he’s receiving professional therapy.”

As part of the workshop, participants are introduced to the toll-free helpline (1800-2099-488) supported by an interdisciplinary team of occupational therapists, speech-language pathologists, and special educators.

“We are proud to empower community champions to spread awareness and provide support for neurodiverse individuals and their families,” says G Vijaya Raghavan, Honorary Director, CADRRE.









SDG 11

Sustainable  
Cities And  
Communities

## EFFICACY OF MICRO IRRIGATION SYSTEMS AND APPLICATION OF BIO-COMPOST

Tata Power, through extensive interactions with farming communities in Mathani and Balewadi villages in Ahmednagar, Maharashtra, identified critical challenges affecting agricultural productivity. Farmers in these villages, primarily cultivating onions, faced declining yields due to traditional irrigation methods, which also compromised crop quality. Additionally, the region, classified as rain-fed, struggled with water scarcity, further aggravating farming hardships.

To address these challenges, Tata Power conducted a thorough analysis and concluded that implementing micro-irrigation systems and bio-compost fertilizers could lead to:

- Efficient water conservation
- Improved onion quality
- Enhanced productivity and increased farmer income

To facilitate the transition to modern and sustainable agricultural practices, Tata Power undertook the following initiatives:

- **Distribution of modern irrigation systems:** including drip irrigation, semi-sprinkler sets, and rain pipes to eligible farmers.

- **Capacity-building programs:** to educate farmers on the effective application of bio-fertilizers such as vermicompost and slurry culture.
- **On-site training and demonstrations:** on vermicomposting techniques to promote sustainable and cost-effective soil nourishment methods.

## Project impact

The project yielded substantial benefits, positively transforming the agricultural landscape of Mathani and Balewadi:

- Over 500 farmers directly benefited from the interventions
- Farmers adopting biofertilizers and slurry culture reported a 30-35% increase in crop yields and a 50% reduction in water wastage by using micro-irrigation
- Aligning with the Government of India's vision of 'Doubling Farmers' Income', several farmers reported positive outcomes
- A 40-50% reduction in chemical fertilizer usage minimized environmental degradation and health risks
- Financial relief was provided through 80% subsidies on micro-irrigation sets, reducing the burden of upfront investment
- Improved soil fertility, water retention capacity, and overall land health contributed to long-term sustainability

## Key success factors: What worked?

The initiative's success was driven by multiple factors:

- **Active community engagement:** Farmers participated enthusiastically in training sessions and adopted micro-irrigation and bio-composting methods.
- **Strategic partnerships:** Collaboration with NABARD, NGOs, and Farmer Producer Companies created a strong support system.



- **Technical expertise and training:** Ensured farmers could effectively operate and maintain micro-irrigation systems.
- **Hands-on demonstration sessions:** Built confidence in farmers to transition from synthetic to organic fertilizers, enabling them to adopt and manage vermicompost and slurry culture.

## Challenges and lessons learnt

- **Technical difficulties:** Farmers initially faced challenges such as clogging and damage to irrigation systems. Regular technical training on proper maintenance and troubleshooting, and dedicated support teams were established to assist farmers in system upkeep and repairs, ensuring long-term usability.
- **Energy constraints:** Limited access to electricity affected the operation of micro-irrigation systems. To mitigate this, farmers were encouraged to use solar-powered pumps where feasible. Additionally, irrigation schedules were optimized to make efficient use of available power, ensuring consistent water supply.
- **Land fragmentation:** Small, fragmented landholdings made it difficult to implement micro-irrigation systems effectively. In response, farmers were encouraged to form cooperative farming groups, allowing them to pool resources and install shared irrigation systems. This approach maximized land productivity while reducing individual investment burdens.
- **Misconceptions about bio-fertilizers:** Some farmers hesitated to adopt biofertilizers due to myths about reduced productivity. To dispel doubts, on-field demonstration plots showcased the effectiveness of vermicompost and slurry culture. Awareness programs featuring success stories from early adopters further encouraged widespread acceptance.
- **Lack of infrastructure:** Inadequate storage, transportation, and market access initially hindered the distribution of biofertilizers. Tata Power collaborated with local organizations and government agencies to improve storage solutions and facilitate better market linkages, ensuring a steady supply chain for both inputs and outputs.
- **Market competition from synthetic fertilizers:** Synthetic fertilizers remained a cheaper and more accessible alternative, posing a challenge to biofertilizer adoption. To counter this, financial subsidies and cost-sharing models were introduced, making biofertilizers more affordable. Additionally, farmers were educated on the long-term cost savings and soil health benefits, encouraging a shift toward sustainable practices.

# Impact stories

## Sainath Tanaji Bandal - A testament to the efficacy of micro-irrigation systems

For over two decades, Sainath Tanaji Bandal, a dedicated farmer from Mathani village, relied on traditional irrigation methods to cultivate his fields. However, these conventional techniques led to excessive water wastage, directly impacting the quality and yield of his onion crops. Given that onions require a carefully regulated water supply to thrive, the lack of precision in irrigation resulted in inconsistent yields and financial strain.

Recognizing this challenge, Tata Power introduced Sainath to an advanced micro-irrigation system, equipping him with sprinklers, drip irrigation sets, and rain pipes designed to maximize water efficiency. The results were transformative.

With the precision irrigation system in place, Sainath significantly reduced water wastage while ensuring a consistent and adequate water supply to his crops. This not only improved the quality of his onions—leading to uniform size and superior texture—but also increased their market value. The enhanced produce fetched a higher price, directly boosting his income and improving his livelihood.

For Sainath, this shift from traditional to modern irrigation has been a game-changer. By adopting micro-irrigation, he has optimized water usage, enhanced crop quality, and increased productivity—demonstrating how innovative agricultural solutions can revolutionize farming. His success story stands as a powerful testament to the impact of micro-irrigation, offering inspiration to farmers seeking sustainable and profitable agricultural practices.





### Transforming the fate of farming: Ramdas Thorat's success story

Ramdas Thorat, a smallholder farmer from Balewadi village in Maharashtra's Ahmednagar district, once struggled to sustain his livelihood. Despite his relentless efforts, his farm suffered from low yields, poor-quality produce, and frequent crop losses. The high cost of production far outweighed his earnings, pushing him to the brink of giving up on agriculture altogether.

His fortunes, however, took a transformative turn when he was introduced to biofertilizers, specifically vermicomposting and slurry culture, through Tata Power's agricultural initiatives. With expert guidance, rigorous training, and capacity-building support, Ramdas gradually adopted these sustainable farming techniques. The impact was extraordinary. His onion production surged from 100 sacks to an impressive 145-155 sacks on the same half acre plot. The quality of his onions also improved significantly, commanding a higher market price. Previously selling at ₹20 per kg, his produce now fetched ₹30-40 per kg, nearly doubling his income.

Once on the verge of abandoning farming, Ramdas now sees it as a profitable and sustainable venture. His story exemplifies the power of innovation in agriculture. By embracing biofertilizers, he has not only enhanced his farm's productivity but also regained his confidence and optimism for the future. Today, he is eager to explore further advancements in farming, inspiring other smallholder farmers to adopt similar practices.



Ramdas Thorat's success is a powerful reminder that even small interventions can create life-changing impacts. By integrating sustainable farming techniques, small farmers can break free from the cycle of poverty and cultivate a prosperous future for themselves and their communities.



SDG 12

Responsible  
Consumption  
And Production

## ECO-TETRAPODS

Transforming Power Plant Waste into  
Coastal Defence Infrastructure

A study by researchers from NIT Durgapur and IIT (BHU) highlights that coal ash in Indian power plants typically consists of 20-25% bottom ash and 75-80% fly ash. This breakdown is consistent across many Indian thermal power plants. While differing in composition and properties, both fly ash and bottom ash pose significant risks to human health and the environment.

Types of Ash in Thermal Power Plants:

- **Fly Ash:** Fine, lightweight particles that remain airborne as small, dark flecks
- **Bottom Ash:** Coarser, denser ash that settles at the furnace bottom

Tata Power's Trombay Thermal Power Plant has pioneered an innovative solution to address two critical challenges: the sustainable disposal of bottom ash and coastal erosion protection. The plant generates approximately 6,000-7,000 MT of bottom ash annually, which traditionally required disposal in MPCB-approved areas 40-45 km away from the plant. This disposal not only posed environmental risks but also incurred significant operational costs.

Eco-tetrapods are concrete structures designed for coastal protection which are now being innovatively manufactured using bottom ash, thanks to a pioneering approach by the plant's engineering team. Leveraging the granularity, light weight, and interlocking strength of bottom ash, the team developed a sustainable solution that not only strengthens coastal defences but also promotes waste reuse. The tetrahedral design of tetrapods enables water to flow around rather than resist them, effectively dissipating wave energy and safeguarding seawalls and breakwaters. This initiative also supports the Central Government's 2021 mandate for ash utilization by thermal power plants.

# Project impact

The project has delivered multiple environmental and economic benefits:

- **Environmental protection:** The initiative has transformed a hazardous waste product into a useful construction material, significantly reducing the environmental impact of bottom ash disposal.
- **Resource conservation:** By replacing sand with bottom ash in tetrapod construction, the project helps preserve natural sand resources and protect riverbanks and lake beds from dredging damage.
- **Cost efficiency:** The bottom ash tetrapods are more economical than conventional ones while delivering 15% higher compressive strength.
- **Carbon footprint reduction:** The innovative reuse has minimized carbon emissions associated with ash disposal and traditional tetrapod manufacturing.
- **Coastal protection:** The tetrapods have proven effective in preventing coastal erosion, particularly in areas undergoing extensive construction.

## Key success factors: What worked?

- **Innovative material usage:** Successfully replaced sand with bottom ash in tetrapod construction, consuming 754 kg of bottom ash per 2.5 MT tetrapod. This resulted in a 15% increase in compressive strength compared to conventional designs.
- **Proven durability:** The tetrapods have withstood four monsoon seasons without degradation in physical or strength parameters.
- **Technical excellence:** Achieved M30 grade specifications with enhanced strength compared to conventional tetrapods.
- **Versatility:** The success has led to the development of other bottom ash products including M40 grade poles, precast cement poles, drain sections, cable trench tiles, portable toilet units' walls and garden benches.
- **Patent recognition:** The innovation's uniqueness has resulted in a patent application in advanced stages of approval.



## Challenges and lessons learned

- **Manufacturing logistics:** The main challenge lies in handling the significant mass (2.5 MT) of each tetrapod unit during production and installation.
- **Quality assurance:** To overcome the challenge of durability, extensive testing was required to ensure the bottom ash tetrapods met or exceeded conventional strength parameters.
- **Process optimization:** The team learned to optimize the mixing and curing process to achieve consistent quality across productions.

## Impact stories

The eco-tetrapods were deployed at:

- Maharashtra Maritime Board
- Brihanmumbai Municipal Corporation (BMC)
- Coastal Development Authorities
- Ministry of Ports & Harbors
- Public Works Department (PWD)
- Central Public Works Department (CPWD)

## Media

The innovation has received significant media attention, with coverage in major publications including:

- The Times of India (September 13, 2022)
- Mid Day (September 2022)



Bottom ash Tetrapod is a Tetrapod made using waste material of Coal Firing thermal Power plant.

**Conventional Tetrapod - Cement + Sand + Aggregates**

**Bottom Ash Tetrapod - Cement + Bottom Ash + Aggregate**

100% Replacement of Sand by Bottom Ash.

Its breakthrough in Civil Engineering field as Natural Sand is replaced 100% by Waste Material ie Bottom Ash.

**No Sand**

**Save Natural Scarce Resources**

**Best From Waste**

**First Time in Any Power Utility**





# A CONCRETE PLAN RISES FROM ASHES

## POWER WASTE GOES INTO ECO-TETRAPODS

Pic for representation

In a green measure, an innovative method has been developed to make tetrapods by mixing concrete with ash instead of sand. It reduces the city's carbon footprint by making the 'best out of waste' (ash) and saving aquatic life from dredging (of sand). The initiative, by Tata Power's coal-based thermal plant at Trombay, also aims at protecting the city's coastline from erosion. **Somit Sen** reports

### THE PROJECT

**Thermal power plants discharge two kinds of ash**

**Fly ash** | Comprises fine particles that get suspended in air

**Bottom ash** | Denser, heavier and coarser

● Roughly 20% of a thermal power plant's ash output is bottom ash. It is collected wet and usually sent out to construction sites as landfill material



● The Trombay plant is now making tetrapods, used to prevent coastal erosion (like at Marine Drive), with bottom ash

● The waste material is also being used to make bricks, for use in construction



**7,500 km**  
India's coastline, large stretches of which are in need of erosion-prevention measures

**15 million**  
Number of tetrapods needed for the purpose

### GREEN RESULTS BY PLANT

- Reduction in Mumbai's carbon footprint by reuse of waste material
- Non-exploration of sand, which in turn will prevent erosion of riverbanks and lakebeds



### Civil engineering breakthrough

**100%**  
replacement of natural sand by waste material, a sustainable and attainable aim

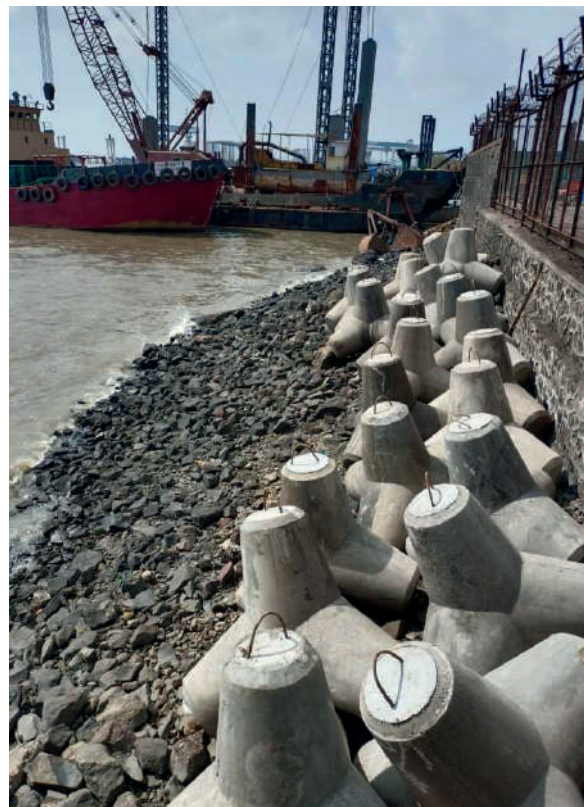
### SAME QUALITY BUT CHEAPER

“Tetrapods made by the inclusion of bottom ash are cheaper than those made by the inclusion of sand, but are of comparable quality

**Neelesh Kane** | CHIEF, DISTRIBUTION  
MUMBAI, TATA POWER

### INTERESTED PARTIES?

Agencies that may be interested in the eco-friendly tetrapods include Maharashtra Maritime Board, BMC, other municipal bodies in charge of coastal cities, and any organization with jurisdiction over areas with coastlines



## Change begins from below

A new innovation creating tetrapods out of bottom ash from coal thermal plants, might change the way city's coasts can be protected from erosion and pollution

**YUSRA HUSAIN AND HEENA KHADELWAL**

THREE years ago, some brilliant minds at **Tata Power** sat down for a brainstorming session in their Port office in Mumbai. The cause for concern—bottom ash, a non-combustible residue of coal firing in thermal power plants, needed to be disposed of. Long meetings, unsending conference calls and continuous back and forth with the R&D team, finally brought the Generation team at Trombay to land on an idea that would be the change-maker contributing to Mumbai's coastline by giving it both strength and life. Three years later, there is success. **Tata Power**, through its innovation, is now making tetrapods—essential to Mumbai's coastline—from bottom ash, something which has not been done ever before.

Tetrapods are concrete structures used to preserve the coast from wave erosion. Traditionally, they are made by mixing concrete and sand, which adds an added pressure on the aquatic life when dredging is done for the latter's procurement.

According to the Central Electricity Authority (CEA), about 80 per cent of the total electricity generation capacity in India is dependent on thermal plants. A thermal power plant, in turn, produces two types of ash in the environment, one which is called fly ash that gets suspended in the air as small dark flecks of burnt coal, and the other more denser and coarser ash collected in the bottom of the furnace known as bottom ash. While the government has incorporated several measures to use fly ash in the construction of roads and bricks among other construction materials in an attempt to get rid of it in a useful way, bottom ash is conventionally used just as landfill material.

A study on bottom ash in the Indian perspective by researchers at the National Institute of Technology, Durgapur and Indian Institute of Technology (Banarus Hindu University) says that in general, coal ash in a power plant consists of 25 per cent of bottom ash and 75 per cent of fly ash or 20 per cent of bottom ash and 80 per cent of fly ash. The CEA report from February 2022 states that as many as 157 thermal power plants in India generated about 134.9 million tonnes of fly ash between April and September 2021. Both forms of ash are not just hazardous to humans, but also detrimental to the environment, flora and fauna.

“Idea for the tetrapods made by



**YUSRA HUSAIN**  
Neelesh Kane

A study on bottom ash in the Indian perspective by researchers at the National Institute of Technology, Durgapur and Indian Institute of Technology (Banarus Hindu University) says that in general, coal ash in a power plant consists of 25 per cent of bottom ash and 75 per cent of fly ash or 20 per cent of bottom ash and 80 per cent of fly ash

combining concrete with bottom ash instead of sand, germinated three years ago. But with COVID-19 knocking at our doors, the final mould and casting of the mixture and lab test to check for its efficacy got delayed. The result was finally seen in February this year,” Vijay Nanjoshi, chief of the Generation team at **Tata Power**, tells us.

With this, **Tata Power** claims to have converted “waste to wealth” and of taking a step towards reducing our carbon footprint. It says more such products can be invented by using the non-traditional residual product bottom ash.

Environmentally hazardous, fly ash contains sulphur, boron and mercury. Bottom ash contains metals like arsenic, cadmium, chromium, selenium and lead. These metals, like selenium are linked to fish poisoning, and calcium and chromium have carcinogenic properties and are toxic to both marine and human life. “These tetrapods developed using bottom ash instead of sand are offering the same strength as the conventional ones made from M30 grade concrete,” Nanjoshi claims further. They are also said to be cheaper than their concrete counterparts. As of now, the new innovation has been stationed by Tata Power at the seashore at their Trombay plant and the organisation claims the performance results are as desired and the same as regular tetrapods made of concrete and sand. “Various agencies have shown interest in the innovation,” Nanjoshi says. How can this innovation be applied to Mumbai now to save its land from coastal erosion and its sea from dredging for sand? Nanjoshi responds, “There is a lot of construction taking place on Mumbai harbour where these tetrapods can be used for shore protection.”







## URJA ARPAN

Transforming Delhi's Energy Landscape Through Community Action

### SDG 13 Climate Action

In an era where electricity generation accounts for 35% of global greenhouse gas emissions, innovative solutions for sustainable energy consumption have become imperative. Tata Power Delhi Distribution Limited's Urja Arpan campaign, launched in April 2022, emerges as a pioneering initiative that combines digital engagement with community action to promote energy conservation.

At the campaign's core lies [www.urjaarpan.com](http://www.urjaarpan.com), an innovative digital platform that transforms energy conservation into an engaging community experience. The platform enables users to pledge their commitment to sustainable practices, document their energy-efficient purchases, and earn Urja Arpan units through a gamified system. This approach has successfully created a digital ecosystem that not only educates but also incentivizes sustainable choices.

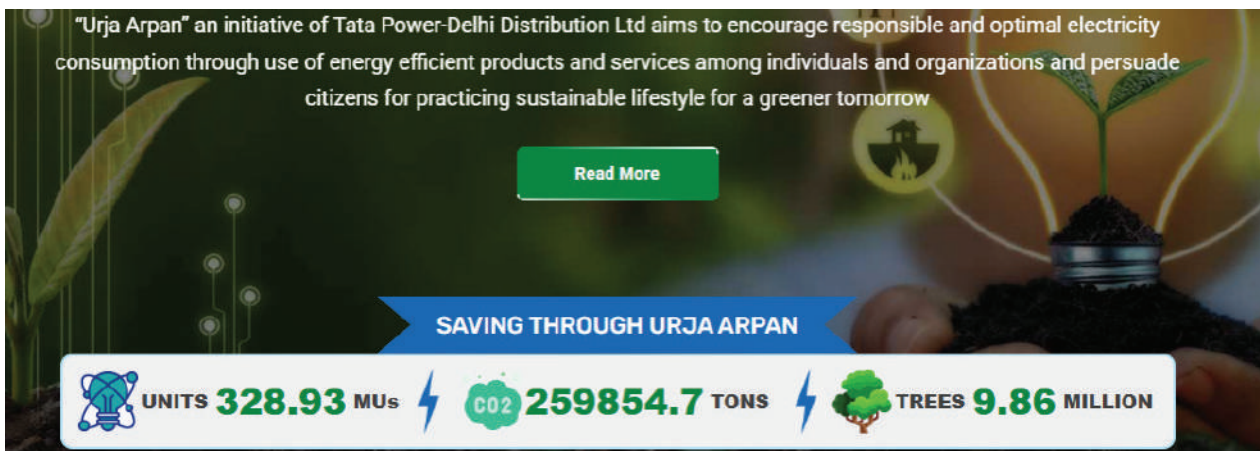




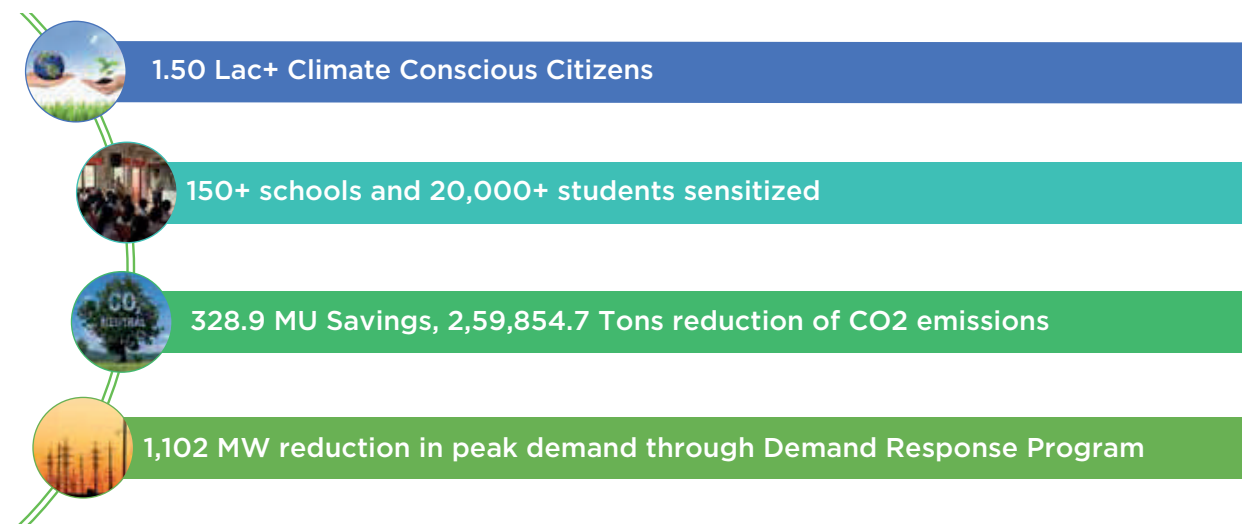
## Project impact

The campaign's effectiveness is reflected in its impressive metrics. By FY25, Urja Arpan achieved:

- Energy savings of 328 million units (MUs)
- Carbon emission reduction of 2,59,854.7 tons
- Environmental impact equivalent to preserving 9.86 million trees



These achievements led to Urja Arpan receiving the prestigious Green Energy Award from the Indian Federation of Green Energy (IFGE) in 2024 and the National Energy Conservation Award 2024. The campaign has recently surpassed its target of 300 MUs in electricity savings, putting it well ahead of schedule to achieve its 2025 goals.



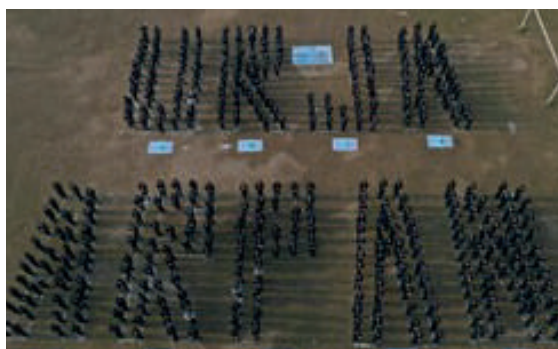
## Key success factors: What worked?

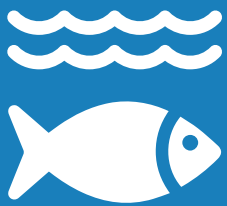
The campaign's success stemmed from a multi-faceted approach:

- **Energy-efficient product adoption:** Through strategic partnerships with manufacturers and distributors, Urja Arpan facilitated access to energy-efficient products. The campaign addressed the higher initial costs by emphasizing long-term savings on electricity bills, making these products more attractive to consumers.
- **Demand response management:** The initiative worked closely with both residential and commercial consumers to optimize electricity usage during peak periods. This strategic load management significantly improved grid stability while reducing transmission losses.
- **Solar energy integration:** A key component of the campaign is its push for solar panel adoption among residential and commercial consumers. Through targeted incentives, the program encourages transition from conventional power sources to renewable alternatives.
- **Educational outreach:** The campaign's integration into school curricula represents a forward-thinking approach to creating sustainable change. By educating young minds about energy conservation, Urja Arpan is building a foundation for long-term environmental stewardship.

## Challenges and lessons learnt

- By promoting the cost savings on electricity bills in the longer run, the challenge of higher capital cost of energy-efficient products was surmounted.
- Data validation concerns were resolved through partnership with TERI for measurement and verification.
- While awareness was high across all social segments—students, senior citizens, RWAs, IWAs, and C&I—the deployment rate remained low. Testimonials from community leaders and eminent citizens, targeted advertisements, and leadership engagement significantly boosted participation.





SDG 14

Life Under Water

## GOLDEN MAHSEER CONSERVATION

India is home to 15 of the 47 Mahseer species found worldwide, including the Golden Mahseer (*Tor putitora*), one of the twenty recognized "mega fishes." These remarkable creatures grow from millimetre-long hatchlings into stunning specimens, reaching lengths of up to 2.75 meters and weighing as much as 50 lbs [22 kg]. Renowned for their golden hue and revered for their ecological, sustenance, and sporting value, the Golden Mahseer has earned titles like "King Mahseer," "Mighty Mahseer," and "Tiger of Fresh Water." As a migratory fish, it undertakes upstream journeys during pre-monsoon and monsoon seasons, traveling from large rivers and higher-order streams to lower-order streams for spawning.

Despite their ecological and cultural significance, Mahseer populations faced a sharp decline by the 1970s due to factors such as habitat destruction, pollution, overfishing, use of explosives, and commercialization of the fishing industry. Compounding these challenges was the Mahseers' low fecundity rate compared to other freshwater species, further threatening their survival. The disappearance of the fish, once abundant in the rivers of Western Ghats, alarmed local villagers, who turned to Tata Power and the Fisheries Department of Maharashtra for help.



Responding to the community's distress, Tata Power launched its Mahseer conservation initiative in 1970, making it the largest corporate-led conservation project in India. With guidance from the Central Institute of Fisheries Education, Tata Power established the Mahseer Breeding Centre at Walwhan, Lonavla. By 1986, the company began focused efforts on breeding the Golden Mahseer, leveraging a state-of-the-art hatchery capable of hatching over five lakh eggs at a time. Tata Power also pioneered cage culture and ranching programs, setting a benchmark for conservation practices replicable across the country.

In 2016, the company expanded its efforts with the launch of the 'Act for Mahseer' campaign, a nationwide initiative aimed at creating awareness and fostering public participation in Mahseer conservation. The campaign follows a three-pronged strategy: Educate, Engage, and Empower. Tata Power has initiated a slew of interesting programs to involve the general public. These include donating a hatchling or fingerling (baby Mahseer) for every Save The Mahseer pledge taken by people, conferring a 'Fish's Knight' title and other rewards on those who sensitize citizens on saving the Mahseer, engaging the general public with a micro-site, a travelogue, a gaming app etc. Our conservation initiatives include numerous donation drives, encouraging volunteering for habitat adoption and experiential visits to our Hatchery in Lonavla. All aimed at making the Act For Mahseer campaign as crucial as Save The Tiger.

Through sustained efforts over the decades, Tata Power has demonstrated its commitment to protecting this iconic species, ensuring that the conservation of the Golden Mahseer transcends business objectives and serves as a model for corporate environmental stewardship.

## Project impact

- Tata Power's flagship biodiversity conservation program, initiated in the 1970s, is one of the oldest corporate-led conservation initiatives in India. Over the past three years, more than 2 lakhs Golden Mahseer fingerlings have been produced, with 1 lakh dispatched to Northern states in India, ensuring an impressive survival rate of approximately 65% during breeding season.
- The release of Golden Mahseer into water bodies has been consistently conducted in collaboration with state fisheries departments ensuring their expertise, guidance, and active participation in the process.
- Tata Power's conservation efforts have played a pivotal role in bringing the Golden Mahseer into focus as a species of ecological and cultural significance, advocating for its inclusion on conservation agendas at both the national and global levels. Students from universities undergoing their M.Sc. or PhD, visit Tata Power Hatchery for references and field work.



- Tata Power has organized national and international platforms to exchange knowledge, share best practices, and create actionable roadmaps for the conservation of the Golden Mahseer.

## Key success factors: What worked?

- Strong commitment from Tata Power's top management, coupled with sustained financial assistance, has ensured the long-term success of the conservation program.
- State-of-the-art facilities, trained workers, guiding officers, and passionate volunteers have been instrumental in the effective execution of the project.
- Comprehensive expertise in Mahseer breeding, a willingness to learn and adapt, and knowledge-sharing initiatives have driven the program's success and impact.
- Partnerships with state fisheries departments, local communities, and research institutions, combined with effective media and advocacy campaigns, have amplified sensitization and engagement.
- The program's innovative, scalable, and replicable conservation practices demonstrate a long-term commitment to biodiversity and ecological balance.

## Challenges and lessons learnt

- Lack of reliable data on Mahseer species, including taxonomical characteristics, habitats, and population densities, hindered targeted conservation efforts. Building partnerships with research institutions and leveraging traditional knowledge helped bridge information gaps and enhance conservation strategies.
- Pollution and degradation of breeding habitats required significant restoration and advocacy efforts. Collaborations with local communities and regulatory bodies to implement sustainable practices for protection of natural ecosystems was carried out.
- Raising awareness among fishermen, local communities, and the public about the ecological importance of Mahseer was challenging due to entrenched practices and limited outreach. This was worked upon through effective education campaigns.



**Walwhan Dam**



**Golden Mahseer Brooder**



**Fingerling of Mahseer**



**Fries of Golden Mahseer**



SDG 15

Life On Land



## GAJA SANRAKSHANA

In the eastern Indian state of Odisha, a crisis has been unfolding quietly over the past few years. Between 2017 and 2022, 416 elephants lost their lives to preventable causes including disease, accidents, and electrocution, according to RTI data. This alarming statistic has sparked a ground-breaking conservation initiative: Project Gaja Sanrakshana, a collaborative effort between Government of Odisha, Tata Power, and the Support for Network and Extension Help Agency (SNEHA).

Asian elephants, one of the largest land mammals on the continent, play an irreplaceable role as ecosystem engineers. Their movement patterns, feeding habits, and social behaviours help maintain the rich biodiversity of forest ecosystems. However, these magnificent creatures face increasing threats as human development encroaches upon their traditional habitats.

Project Gaja Sanrakshana represents a comprehensive approach to elephant conservation, combining technological innovation with community engagement. The initiative focuses not only on protecting the elephants but also on safeguarding the livelihoods of communities living in elephant corridors and hotspots throughout Odisha.

# Strategic implementation

The project has launched its pilot phase in the Dhenkanal and Angul districts, chosen for their significant elephant populations and history of human-wildlife conflict. The implementation strategy follows a carefully structured approach:

## Community engagement and assessment:

- Expert teams conduct extensive field assessments while building relationships with forest officials and local stakeholders
- Close collaboration with Gaja Saathis – specialized elephant monitors deployed by the forest department
- Strategic mapping of community segments, including farmers using agricultural fencing and women self-help groups
- Creation of folk songs and street plays in local languages
- Development of targeted intervention maps identifying critical areas and hotspots

## Technological integration:

- Installation of advanced proximity sensors and GSM-based camera traps
- Implementation of early warning systems with hooters
- Deployment of GPS-enabled devices for field mapping
- Promotion of solar fencing in appropriate locations based on situational analysis

## Capacity building:

- State-level orientation workshops for stakeholders
- Training programs focused on positive reinforcement and rapid response techniques
- Development of localized training modules and awareness materials



### Governance structure:

- A dedicated advisory committee providing strategic guidance.
- State-level project coordination centre.
- Satellite monitoring stations for real-time oversight.
- Field teams equipped with modern tracking and communication tools.

## Key highlights

### Community engagement & survey:

- Conducted baseline survey covering 6,412 farmers across approximately 250 vulnerable villages
- Coverage included Dhenkanal-Sadar, Hindol forest ranges (Dhenkanal division), and Bantala forest range (Angul Forest division)
- Trained over 942 'Gaja Saathis' (village volunteers) recruited by Odisha Forest Department on elephant protection and community practices

### Communication & awareness:

- Established WhatsApp alert system with 3,000+ subscribers for real-time elephant movement updates
- Performed folk songs and street plays in 160 villages promoting human-elephant coexistence
- Conducted awareness programs during World Elephant Day and Wildlife Week, engaging 2,500+ school children
- Completed wall paintings at 18 locations to discourage elephant harassment
- Organized Panchayat-level meetings for village leaders and farmers
- Cautioned the youth against harassing elephants and explained the Anukampa Scheme (Compassion Scheme), clearly outlining the process to claim compensation for their losses

### Prevention impact:

- Achieved 90% reduction in elephant casualties, with only 2 electrocution incidents (1 each in Dhenkanal and Angul) compared to previous years' higher mortality rates
- Established joint patrolling and vigilance system between Forest Department and Tata Power
- Created reward system for TPCODL linemen and Gaja Saathis for reporting violations

### Identification of potential electrocution threat spots:

Potential electrocution threat spots were identified, mapped using GPS and shared to support the Forest Department and Tata Power's joint patrolling and vigilance:

- 52 live wire poaching spots
- 31 spots with sagging power lines
- 196 vulnerable unbarricaded transformers
- 441 solar-powered fences at risk of malfunction
- 299 GI wire fencings susceptible to hooking

## Challenges and lessons learnt

- Managing vast territory across multiple forest ranges and 250+ vulnerable villages was a major challenge. The deployment of local Gaja Saathis and creation of a WhatsApp network improved real-time communication, incident reporting, and coordination efficiency.
- Changing deep-rooted community practices like unsafe food storage and open defecation proved challenging. This was addressed through cultural tools like street plays, Ghoda Nacha performances, targeted wall paintings, and school engagement activities.
- Regular monitoring of various types of fencing presented an infrastructural challenge, which was mitigated through GPS-based tracking and scheduled maintenance protocols.





## SDG 16

### Peace, Justice And Strong Institutions



## TPCDT AS AN ENABLER FOR PEACE & INCLUSIVE SOCIETIES

As the Corporate Social Responsibility arm of Tata Power, Tata Power Community Development Trust (TPCDT) has emerged as a catalyst for positive social change, working tirelessly to fulfill the objectives of sustainable development, social equity, and economic empowerment, fostering peaceful, just and inclusive societies through innovative community engagement programs and strategic partnerships.

Established in 2008 as a registered charitable trust under the Maharashtra Public Trusts Act, 1950, TPCDT operates under the guidance of seven experienced trustees. Our mission extends beyond traditional CSR, focusing on creating lasting social impact through sustainable development initiatives across education, healthcare, entrepreneurship, employability, and environmental conservation.

This transformation is driven by our systematic approach encompassing critical pillars:





### **Strategic program design:**

- Alignment with national and regional government agendas
- Focus on long-term shared-value creation
- Development of multi-year initiatives for lasting impact

### **Community engagement:**

- Establishment of community committees for local governance and participatory decision-making processes
- Implementation of flagship programs like Club Enerji, Adhikaar, Anokha Dhaaga and Pay Attention
- Employee volunteering initiatives
- Creation of dialogue platforms for conflict resolution

### **Institution building:**

- Collaboration with Panchayati Raj Institutions
- Partnerships with public health facilities and specialized institutions
- Capacity building programs for community leaders

### **Impact tracking:**

- Regular monitoring of program outcomes
- Collection of community feedback
- Assessment of scalability and sustainability
- Documentation of success stories and lessons learned

# Impact highlights

- **Extensive reach:** Directly serving 42 lakh+ beneficiaries across 85 different neighbourhoods nationwide
- **Strong partnerships:** Collaboration with 40+ partners, including government bodies and other Tata Group companies and Tata Trust
- **Institutional strengthening:** Enhanced capabilities of local governance bodies and community institutions
- **Social inclusion:** Successful implementation of affirmative action programs benefiting women, farmers, and youth

## Key success factors: What worked?

### Innovative initiatives:

- **E-Sanidhya portal:** Collaboration with NIEPID and Tata Elxsi, serving 8000+ users nationwide
- **Pay Attention:** Autism support network for neurodiverse individuals and their caregivers
- **Anokha Dhaaga and Abha:** Promoting self-employment and financial literacy
- **Water-cup competition:** Training 100+ villagers in watershed management

### Comprehensive programs:

- **Capacity building:** Targeted training programs such as STEM, clean energy awareness and use, digital and financial inclusivity for youth, Anganwadi workers, Self-Help groups, and local leaders
- **Resource management:** Village natural resource and water conservation committees
- **Skill development:** Vocational training and leadership workshops

### Sustainable infrastructure:

- **Community centers:** Establishing spaces for dialogue and engagement
- **Digital platforms:** Creating accessible resources for remote communities
- **Training facilities:** Developing infrastructure for skill development
- **Resource management systems:** Implementing energy and water conservation projects

## Challenges and lessons learnt

- **Cultural barriers:** Deep-rooted social norms within the communities were addressed through persistent engagement and education
- **Resource optimization:** To reach wider geographies, resources were scaled up and programs were adapted to local contexts to ensure relevance and acceptance
- **Partnership management:** Consistent efforts to build effective collaborations at various levels while maintaining program integrity
- **Impact measurement:** To track the progress efficiently, comprehensive frameworks were created for measuring long-term social change

## Impact stories

### **E-Sanidhya: Digital innovation through Public Private Partnership for inclusive society**

**E-Sanidhya** - Powered by Pay Attention & NIEPID

**Website:** [www.e-sanidhya.com](http://www.e-sanidhya.com)

- E-Sanidhya Portal developed by TPCDT in collaboration with NIEPID and with technical support from Tata Elxsi is part of our flagship CSR program 'Pay Attention'. It was launched by the Hon'ble Minister of Social Justice and Empowerment, Government of India, at Vigyan Bhawan, New Delhi, on 3rd December 2024 as an open source. The digital platform provides diagnostic support and home care solutions and is accessible to all through a simple registration process using a mobile number and OTP. The portal has been instrumental through its key features:
- Preliminary screening tools are user-friendly and accessible to all
- Book online consultation through video sessions with specialized professionals
- Round-the-clock tele-support helplines for caregivers
- Tutorials & webinars to promote awareness and inclusive behaviours
- Custom-made e-learning modules covering home care, nutritional guidance, and therapies like dance and movement for neurodiverse children







**SDG 17**

**Partnerships  
For The Goals**

## UNITING TO LEAD THE CHANGE

At Tata Power, environmental stewardship is not just a corporate responsibility—it's a commitment woven into the fabric of our organization. Through strategic collaboration between our CSR and Sustainability teams, we're pioneering multiple initiatives that transform environmental challenges into opportunities for positive change, while fostering a culture of sustainability among our employees and communities.

This journey is strengthened by our partnerships with Government, NGOs, industry bodies, like-minded corporates, value chain partners, and other stakeholders who share our vision of a greener future. Among these, Climate Crew stands out as a critical partnership with our employees — empowering them to champion sustainability in their everyday actions.



### Climate Crew

Climate Crew is Tata Power's employee-led sustainability platform aligned with Mission LiFE, designed to drive individual and collective climate action. It uses an AI-enabled system to track personal and organizational environmental impact, promoting awareness, accountability, and measurable change.

Employees engage through virtual sessions, campaigns, clean-up drives, plantation efforts, and community outreach, fostering climate consciousness and solution-driven thinking. By empowering employees to take personal and collective action, Tata Power is shaping a more sustainable future.

## Project Impact

- **Leadership in environmental stewardship:** Tata Power has established itself as a leader in climate action by driving large-scale employee engagement initiatives.
- **Carbon footprint reduction:** Over 1,96,589.7 kg of carbon footprint eliminated through various activities under Climate Crew's AI platform as of FY25.
- **Plastic recycling:** 2.5 tons of plastic recycled and transformed into fabric for sustainable T-shirts under the Anokha Dhaaga project.
- **Educational outreach:** 1000+ schools engaged through Club Enerji's STEM education program.
- **Employee participation:** Creation of a robust network of Employee Climate Action Champions.

## Key Success Factors: What Worked?

- **AI integration for impact measurement:** Leveraging AI technology to track and assess environmental and social impact.
- **Enhanced educational resources:** Development of comprehensive e-learning programs for employees, awareness mediums for communities and Club Enerji booklets for students to promote sustainability and energy conservation.
- **Cross-functional collaboration:** Implementation of structured mechanisms to enhance teamwork across departments for greater impact.
- **Sustainable product development:** Production of 100+ recycled T-shirts, utilized in major events, including the Tata Mumbai Marathon 2024 and Bangalore Marathon 2024.
- **Educational initiatives:**
  - STEM education programs in schools to foster innovation
  - Employee awareness workshops to encourage environmental responsibility
  - Family engagement activities promoting sustainability at household level
  - Community outreach programs to drive collective action and awareness

# Challenges and lessons learnt

- **Aligning Goals:** Initially, CSR and Sustainability had differing focus areas, making alignment difficult. A unified apex-level leadership goal helped establish common objectives.
- **Strategic Synergy:** Achieving synergy between CSR and Sustainability required careful planning, strong coordination, and cross-functional collaboration to ensure the initiatives complemented each other.



## This image shows a full page of blank, white paper with horizontal blue lines. The lines are evenly spaced and run across the width of the page, typical of notebook or legal stationery. There are no margins, text, or other markings present.





Lighting a  
**BILLION SMILES,**  
Now and  
**FOREVER.**