TATA COMMUNICATIONS

TATA

Annual Project Report FY24

Climate Resilient Village Program

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GHE

Contents

EXECUTIVE SUMMARY

Goal: Improve the quality of life for the communities in remote Garo and Khasi Hills villages of Meghalaya through clean energy access and rural development initiatives.

Key Interventions:

- Solar Electrification: Providing solar power systems for homes and communities, ensuring clean and reliable electricity access.
- Clean Cooking Devices: Distributing and promoting improved cookstoves to reduce dependence on firewood, improve health outcomes, and empower women.
- Primary Healthcare Center (PHC) Upgradation: Electrifying PHCs to enhance healthcare service delivery and improve patient care.
- Training and Capacity Building: Providing training on solar panel maintenance, clean cooking practices, and sustainable livelihood development to empower communities.

Project Impact:

- Improved Quality of Life: Enhanced access to clean energy for lighting, education, communication, and income generation.
- Reduced Environmental Impact: Decreased reliance on firewood and fossil fuels, leading to lower carbon emissions and improved air quality.
- Empowered Communities: Increased skills and knowledge for sustainable living and self-reliance.
- Improved Healthcare: Enhanced healthcare service delivery through electrified PHCs.

Overall, this project is a comprehensive approach to addressing the energy poverty and development challenges faced by tribal communities in Meghalaya. By providing clean energy access, promoting sustainable practices, and empowering communities, the project aims to build climate-resilient villages and improve the overall well-being of the residents.

1. PROJECT OVERVIEW

The Climate Resilient Village Programme, a joint effort between GHE, NESFAS, and TATA Communications, focuses on fostering positive change in the communities residing in the Garo and Khasi hills region of Meghalaya.

The project's multifaceted approach includes the deployment of solar electrification solutions to ensure reliable and sustainable energy access. Through the provision of solar electrification infrastructure and comprehensive training programs, the project seeks to empower local communities with the skills and tools necessary to harness clean energy efficiently. Addressing the critical issue of clean cooking, the initiative facilitates access to modern and sustainable cooking devices. By introducing cleaner cooking technologies, the project aims to mitigate health and environmental hazards associated with traditional cooking practices prevalent in these communities.

Additionally, the project focuses on the improvement of Primary Health Centres (PHCs) by upgrading their facilities with a consistent and reliable electricity supply. This not only enhances healthcare services but also contributes to overall community well-being by ensuring that essential medical facilities are equipped to operate effectively.

2. TIMELINE

The proposed timeline emphasizes phased implementation and a balanced workload while maintaining a consistent pace. It prioritizes early monitoring and training to ensure efficient rollout and community engagement.

A. Q1 and Q2 (April - September 2023):

- 5000 Clean Cookstove Monitoring: Complete the monitoring assessments and establish monitoring mechanisms for existing cookstoves.
- 2 Health Centre Electrification: Complete electrification of prioritized health centers, including equipment installation and staff training.

B. Q3 (October - December 2023):

- 4 Health Centre Electrification: Complete electrification of additional health centers.

- 120 Households Electrification: Installation of solar power systems in 120 targeted households.

C. Q4 (January - March 2024):

- 87 Households Electrification: Installation of solar power systems in 87 targeted households.
- 25 Electric Pressure Cooker Distribution: Introduce additional clean cooking technology for 25 beneficiaries.
- 5000 Clean Cookstove Distribution: Distribute new cookstoves to targeted households.
- 3000 Clean Cookstove Monitoring: Conduct follow-up assessments and provide support for cookstove adoption.
- Solar Training: 25 Youths are to be trained in basic solar on and off-grid installation.

3. PROJECT COVERAGE

Brief on intervention areas completed in the quarters of FY24

S. No.	Intervention Areas	Intervention Details	Status
1	Environment	Distribution of Clean Cookstoves	Completed
2	Environment	Monitoring of Clean Cookstoves	Completed
3	Environment	Distribution of Electric Pressure Cookers	Completed
4	Healthcare	Upgradation of Health Centers with Solar Setup and Medical Care Equipment	Completed
5	Environment	Solar Electrification of Households	Completed
6	Skill Development	Basic Solar Training for Unemployed Youths	Completed
7	Research and Development	Wireless System Development	Completed

4. DELIVERABLES & MILESTONES

S. No.	Activity / Deliverable / Milestone	Duration (months/ weeks/hours)	Frequency/ Quantity	Budget (INR Lakh)	Outreach	
					Target	Actual
1	Setup of Health Centers	12 Months	6	₹1,77,54,283	**3000**	4869
2	Solar Grids for 200 HH	12 Months	200	₹1,43,05,593	1000	1100
3	Wireless System Development	12 Months	1	₹10,97,400		
4	EPC Project Deployment	12 Months	25	₹5,51,650	150	150
5	Face to Face and Onsite Meetings	12 Months		₹3,00,000	1	
6	Solar Training of Youth	12 Months	25	₹7,49,268	25	30
7	Cookstove Monitoring	12 Months	200	₹33,71,265	40000	43077
8	Village Electrification Additional	12 Months	7	₹4,72,000	35	39
9	Cookstove Deployment 3700HH	3 Months	3700	₹1,46,80,964	18500	18609
10	Cookstove Deployment for 1300 HH	3 Months	1300	₹50,90,368	6500	6499
11	Administrative Costs	12 Months		₹18,95,644		
	Total			**₹6,02,68,435**		74373

5. PROGRAMMATIC ACHIEVEMENTS

S. No.	Objective	UN SDG Target	UN SDG Indicators	Outcomes/Key Indicators	Impact	Q1 update	Q2 Update	Q3 Update	Q4 Update	FY24 Update		Status
										Target	Actual	
1	Distribution of Clean Cookstoves	**SDG 3, 5, 13**	**SDG 3.9.1, 5.4, 13.b**	**Count of Cookstoves Distributed**	**Carbon Emission Reduction**				**Distribution of 5000 Clean Cookstoves**	**5000**	**5000**	
2	Monitoring of Clean Cookstoves	**SDG 3, 5, 13**	**SDG 3.9.1, 5.4, 13.b**	Reduction in indoor smoke Reduction in time required for collection of firewood Carbon Offset	Carbon Emission Reduction		Monitoring of 5000 Clean Cookstoves		Monitoring of 3000 Clean Cookstoves	8000	8000	
3	Distribution of Electric Pressure Cookers	**SDG 7**	**SDG 7.1.2**	Transition to Cleaner Technology	Successful adaption of the new technology				Distribution of EPCs to 25 Beneficiaries	25	25	
4	Upgradation of Health Centers with Solar Setup and Medical Care Equipment	**SDG 3**	**SDG 3.1.1, 3.1.2**	No of Women who came to PHCs for Delivery No. of Critical Patients in PHC	Patient Footfall Increase			Upgradation of 2 PHCs	Upgradation of 4 PHCs	6	6	
5	Solar Electrification of Households	**SDG 7**	**SDG 7.1.1, 7.1.2, 7.b.1**	Households with Solar Energy	Ease of access to energy sources			120 Households Electrified with 170W Microgrid	87 Households Electrified with 170W Microgrid	207	207	

6	Basic Solar Training for Unemployed Youths	**SDG 8**	**SDG 8.3.1**	Jobs created, Skills improved	Increased Income Levels				30 youth were trained on Solar installations and maintenance	25	30	
7	Wireless System Development	**SDG 7**	**SDG 7.1.2**	Transition to New Technology	Successful adaption of the new technology				Technology Developed and Ready for Deployment			

Status: Green (100%), Orange (50%-70%) & Red (less than 50%)

6. KEY OUTCOMES

Sl No	Activity	Tangible Outcome	Intangible Outcome	Impact	Linked UN SDG(s)
1	Distribution of Clean Cookstoves	Reduced Firewood Usage	Enhanced quality of life	Increased efficiency in cooking methods	SDG 3, 5, 13
	Monitoring of Clean Cookstoves	Reduced indoor Pollution	Improved indoor air quality		
		Reduced time for firewood collection	Reduced incidence of respiratory illnesses		
		Carbon offset	Decreased carbon emissions		
2	Distribution of Electric Pressure Cookers	Reduced Firewood Usage	Successful transition to cleaner technology	Transition in Cleaner Technology for Cooking	SDG 3, SDG 7
		Reduced indoor Pollution	Reduced reliance on traditional cooking fuels		
		Reduced time for firewood collection			
3	Upgradation of Health Centers with Solar Setup and Equipment	Increased number of People seeking healthcare	Increased number of women seeking healthcare	Increased access to quality healthcare	SDG 3
		6 Health Centres with Access to Clean Energy	Enhanced medical care services		
4	Solar Electrification of Households	207 Households electrified with solar energy	Improved access to energy sources	Ease of access to energy sources	SDG 7
			Reduced dependence on fossil fuels	Mitigated climate change impacts	
			Economic empowerment through energy access		
5	Basic Solar Training for Unemployed Youths	Number of Youth with Basic Solar Technician Skill	Enhanced skill sets for employment opportunities	Increased income levels and job creation	SDG 8
		Increase in Income Levels	Sustainable livelihoods		
6	Wireless System Development	Development of wireless technology for deployment	Successful adaptation of new technology	Improved connectivity and communication	SDG 7
			Enhanced access to information and services		

6.1. Trainings Undertaken/ Capacity Building for Project team.

Title	Duration	Participants	Brief Description
Solar Service and Maintenance Training	1 Day	4	A 1-day refresher training in Tura focused on repairing and maintaining Solar Grids for GHE NESFAS Solar Engineers. Four engineers participated, enhancing their skills in solar system upkeep.
Cookstove Service and Maintenance Training	1 Day	7	A 1-day training in Tura conducted by master trainers. Seven Monitoring and Climate Engineers learned to identify, repair, and maintain clean cookstoves, promoting sustainable cooking practices
Electric Pressure Cooker Deployment Training	1 Day	3	Three GHE NESFAS engineers received training on electric pressure cooker deployment, usage, and monitoring on a pilot basis, optimizing cooking efficiency.
Refresher Training- Improvised Clean Cookstove Distribution	1 Day	21	In preparation for operations in Resubelapara block, a 1-day refresher training on distribution and deployment was conducted, involving 21 participants.
Cookstove Monitoring Training- Gambeggre	1 Day	5	A 1-day training for Monitoring Coordinators from Gambeggre Block focused on cookstove monitoring and assessment, empowering them with effective monitoring techniques.
Cookstove Monitoring Training- Rongjeng	1 Day	6	Village-level monitors from Rongjeng Block participated in a 1-day training on cookstove monitoring and assessment, enhancing their capacity to promote clean cooking practices. Six individuals attended the session.

6.2. Down-stream Partners/ Working Groups (if any)

S. No.	Name	Engagement Duration	Role

6.3. Testimonials (mention no.)

Electrification Beneficiary

Mutus M Sangma
Cherengpara Village, South Garo Hills
I'm very happy for the Solar. For years, we did not have electricity and I received this gift for free. I can now charge my phone and work during night.

Improvised Clean Cookstove Beneficiary

Chisime Sangma
Dainadubi Village, North Garo Hills
I'm very happy for the Solar. For years, we did not have electricity and I received this gift for free. I can now charge my phone and work during night.

Solar Training Beneficiary

Alingson G Momin
Samanda, East Garo Hills
Phone No.- 92336 03500
I learned so many good things from the training. I have learned about AC, DC connection and Solar Installations. Before this I was doing nothing and now training will be better for my life as I can work in installation of Solar Grids and earn my livelihood.
I want to thank you all for this opportunity.

Electric Pressure Cooker Beneficiary

Jeropina Ch Sangma
Chandakona Village, West Garo Hills
Phone No.- 60098 80371
EPC will help us cook very fast and in better way. We will no longer need to be dependent upon firewood for cooking and the smoke in the kitchen will also reduce.
Thank you all for giving us the cooker.

6.4. Impact story (mention no.)

A) From Improving Lives of Thousands, to doing it in Home: Ketush's Electrification Story

Ketush M Sangma, Bansinggre Songital, East Garo Hills *(Phone No. 60096 29298)*

Ketush, a climate engineer with the GHE team, has dedicated himself to bringing clean energy solutions to the Garo Hill region. He's been instrumental in deploying over 50,000 clean cookstoves, reducing emissions and improving health for countless families. But there was one place left untouched by Ketush's efforts: his village, **Bansinggre Songital.**

Living in darkness, Bansinggre lacked access to electricity, a stark contrast to the brighter futures Ketush had helped create for others. In 2023, that changed. Partnering with TATA Communication, Ketush spearheaded a project to electrify his village. Fourteen households, including his own, were equipped with 170W solar power systems, bathing homes in warm light for the first time. Three strategically placed streetlights illuminated the village paths, enhancing safety and security after dusk.

This wasn't just about flipping a switch; it was about symbolism. Ketush's story embodies the transformative power of electrification, not just for distant communities, but for his own. It's a testament to his unwavering commitment to a brighter future, one he helped illuminate not only for his village but for himself and his family.

B) Empowered by Light: Presitha's Journey from Unemployment to Solar Technician

Presitha S Marak, Chokpot, South Garo Hills *(Phone No. 70851 13151)*

Presitha S Marak's journey from a small village to becoming a pivotal figure in her community is a testament to the transformative power of education and opportunity. Born and raised in Chokpot Dajibadimagre village, Presitha's educational journey took her through various institutions, culminating in her graduation with honors in Garo.

However, despite her academic achievements, Presitha faced the harsh reality of unemployment after completing her education. This period of uncertainty and idleness was soon to change when she received an unexpected call from a friend's sister offering her a job opportunity with GHE. Seeing this as a chance to utilize her time productively and make a meaningful contribution, Presitha embraced the opportunity with open arms. Little did she know that this decision would set her on a path of personal and professional growth. Initially tasked with responsibilities related to cookstove management, Presitha soon found herself deeply involved in learning about solar

technology. Recognizing her potential, her supervisors at GHE selected her to attend a solar basic training program in William Nagar.

Attending the Solar training marked a significant turning point in Presitha's career. Equipped with newfound skills and knowledge in solar technology, she eagerly embarked on electrification projects in various villages, bringing light to homes that had previously been in darkness. Moreover, the steady income from her job allowed Presitha to support her siblings in their education, fulfilling her familial responsibilities with pride. Working under GHE became more than just a job for Presitha; it became a blessing that empowered her to meet her needs and contribute meaningfully to society.

As Presitha continues her journey with GHE, she remains hopeful for continued support and opportunities that will enable her to lead a fulfilling life within her community. Her story serves as an inspiration to others, demonstrating the importance of perseverance, seizing opportunities, and giving back to one's community.

7. SUMMARY OF RISKS/ ISSUES /LEARNINGS

In FY 24, the project implementation team navigated a series of challenges and successes, refining their approach and garnering invaluable lessons for future endeavors.

A cornerstone of their success lay in the meticulous adherence to Standard Operating Procedures (SOPs), coupled with proactive engagement of local stakeholders. The strategy of mobilizing unemployed youths from the community not only facilitated project delivery but also fostered a sense of ownership and empowerment among the beneficiaries. Critical to the project's accomplishments was the collaborative partnership forged with District and Block administration. Their support in need assessment and beneficiary mobilization streamlined the project's execution, underscoring the importance of leveraging existing administrative structures for efficient project implementation.

However, the project was not without its hurdles. Negotiating the challenging terrain of Meghalaya, compounded by the unpredictability of late monsoons, posed logistical obstacles that required agile and vigilant management. Despite these challenges, the

team's adaptability ensured that interventions remained on track, albeit with careful navigation.

One area identified for improvement was the documentation process, particularly concerning requirements for funding partners. Implementing a structured calendar with clear deadlines at the project's outset emerged as a potential solution to enhance clarity and accountability in this regard. Stakeholder involvement proved to be a cornerstone of the project's success, providing invaluable insights throughout the planning and execution phases.

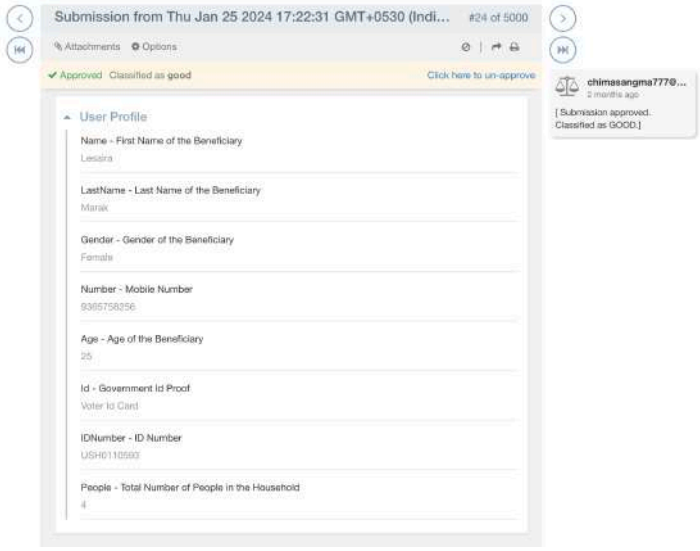
The team's adept management of unexpected changes, such as early monsoons and cyclonic events, highlighted their resilience and ability to pivot in response to evolving circumstances. Project baselines, encompassing time, scope, and cost, were thoughtfully managed, ensuring alignment with project objectives and priorities. Looking ahead, the team aims to bolster project processes through the implementation of robust training and monitoring mechanisms for local stakeholders.

Despite these challenges, the project encountered no significant technical hurdles, attesting to the team's proficiency in navigating the intricacies of project execution. Reflecting on these insights promises to inform and guide future projects, paving the way for continued growth and success in community development initiatives.

8. ICT / DIGITAL ENABLEMENT IN THE PROJECT

A. Empowering Data with Mobile Apps:

An Android app streamlines beneficiary data collection and verification. GHE and NESFAS engineers equipped with smartphones reach every household, capturing real-time data directly on their devices. This eliminates manual paperwork, reduces errors, and ensures data accuracy. A dedicated QC team meticulously reviews and approves the collected data, upholding the highest quality standards.



B. Solar Power Meets Smart Monitoring:

Research and development efforts have focused on creating a real-time wireless monitoring system and portal tailored specifically for solar installations, utilizing a mesh network for connectivity. This innovative system integrates smart devices within solar setups, continuously monitoring key performance metrics such as energy production, voltage, current, and temperature. The data collected is transmitted wirelessly through a mesh network architecture, ensuring robust and reliable connectivity even in remote locations. This information feeds into a centralized portal accessible to stakeholders, providing real-time insights into the health and performance of solar installations. By leveraging predictive analytics, the system can anticipate potential issues and schedule proactive maintenance activities, thereby maximizing uptime and efficiency.

9. FINANCIAL UTILIZATION

Particulars	Grant Received (INR)			Expenditure (INR)					Closing Balance (INR)
	Present FY24	Carried forward from FY23	Total	Q1	Q2	Q3	Q4	Total	
TCL	5,46,22,523	0	5,46,22,523	1,33,22,890	36,34,047	1,14,74,920	2,61,90,666	5,46,22,523	0
TCCSPL	56,45,912	0	56,45,912				56,45,912	56,45,912	0
Total	6,02,68,435	0	6,02,68,435					6,02,68,435	0

10. GOVERNANCE MECHANISM

Brief on internal governance mechanism

Frequency	Activity	Participants (project team/ Tata Comms/ Impact Dash)
Quarterly and Annual	Review with TATA Team	Project Team/Tata Comms
Monthly	Review with GHE and NESFAS	Project Team

Core project management team.

Name	Designation	Role
Pius Ranee	Director, NESFAS	Project Dev
Nangshan Lyngdoh	Finance, NESFAS	Finance
Jaideep Bansal	GHE	Project Dev
Madhurjya Sarma	GHE	Project Operations
Mustafizur Rahman	GHE	Operations
Sumit Dhiman	GHE	Operations
Witerson Sangma	GHE	Operations

11. LEGAL AND COMPLIANCE STATUS

Availability of Legal and Compliance Requirements	Yes/No
Project Category (Ongoing/ Other-than Ongoing)	Yes
Linked Schedule VII activity	Yes
Project ID	CRVP
CSR form 2 Registration certificate (if yes, mention registration no.)	Yes
MoU/ MoA	Yes
General Body/Governing Body/Board Members/ Trustees	Yes

Bank details	**Yes**
Registration under Section 12A	**Yes**
Approval under section 80G	**Yes**
PAN	**Yes**
TAN	**Yes**
GST (if applicable)	
Audit details for last 3 years	**Yes**
Annual reports for last 3 years	**Yes**
Due diligence report	**Yes**

12. COMMUNICATIONS:

NA

13. EMPLOYEE VOLUNTEERING INITIATIVES :

NA

14. WAY FORWARD

- **Monitoring of 13000 Installed Cookstoves**
- **Installation of 7000 New Cookstoves**
- **Solar Electrification of 50 Households**
- **Solar Training of 25 Youth**
- **Continuous Monitoring and Maintenance of existing installations**

ANNEXURES

Fig- Installation of Solar Microgird in Chokpot block, South Garo Hills

Fig- Solar Microgrid Distribution in Samanda Block, East Garo Hills

Fig- Installation of Solar Setup in Mawkynrew PHC, East Khasi Hills

Fig- Baby Warmer being setup in Jongsha PHC, East Khasi Hills

Fig- Village Mobilzation for Clean Cookstove in Resubelpara, North Garo Hills

Fig- Beneficiary with Clean Cookstove in Resubelpara Block, North Garo Hills

Fig- Distribution of Electric Pressure Cooker in Selsella Block, West Garo Hills

Fig- Beneficiary with Electric Pressure Cooker in Selsella Block, West Garo Hills

Fig- Trainees with DC, EGH in Williamnagar post-completion of the Solar Training

Fig- Practical Training session during Solar Training in Williamnagar, East Garo Hills