



GAIL (India) Limited

**Impact Assessment Report on Support for
development activity under Swachh Bharat
and related missions in North Guwahati,
Kamrup district (FY 19-20 & 20-21)**



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Contents

1.1	Executive Summary	4
1.2	Introduction	6
1.2.1	CSR at GAIL	6
1.2.2	GAIL CSR Vision	6
1.2.3	GAIL CSR Objectives	6
1.2.4	About the project/programme	7
1.3	About the Implementing Agency	10
1.4	Methodology and Approach	10
1.4.1	OECD DAC: Evaluation Criteria	11
1.4.2	Geographical Scope	12
1.4.3	Sampling Strategy	12
1.4.4	Sample Coverage	13
1.4.5	Data Collection and Analysis	13
1.4.6	Stakeholder Map	13
1.4.7	Impact Map	15
1.5	Scoring Matrix	16
1.6	Impact Assessment	17
1.6.1	Relevance of Intervention	17
1.6.2	Coherence of Intervention	18
1.6.3	Effectiveness of Intervention	21
1.6.4	Efficiency of Intervention	22
1.6.5	Sustainability of Intervention	22
1.6.6	Branding	23
1.6.7	Impact of Intervention	24
1.7	Overall rating of the project	33
1.8	Case Study	34
1.9	Conclusion and Way Forward	34



1.1 Executive Summary

Over the last few decades, India has expedited its journey to being a global leader in both thought and action. Being the most populous country in the world, India has the ability to offer the pivotal traction required to achieve the 2030 Sustainable Development Goals (SDGs). India's alignment with the international development agenda, as exemplified by the motto "Sabka Saath Sabka Vikas" (collective efforts, inclusive growth), underlines the country's commitment to the SDGs.

With over 1.4 billion people from diverse social, economic and cultural backgrounds, India faces an arduous challenge in meeting their aspirations. Nonetheless, the story of India since 1947 reflects an impressive growth. The country has effectively lifted more than 271 million people out of multidimensional poverty through economic growth and empowerment.¹ Inequalities in housing, nutrition, child health, education, sanitation, drinking water, and electricity have decreased as a result of enhanced access and reduction in poverty.

Nonetheless, at the national level, there is still a substantial amount of work to be done in multiple sectors. Once such sector is WASH, under which access to clean drinking water is a persistent issue such that drinking unsafe water impairs health through illnesses such as diarrhoea, and untreated excreta contaminates groundwaters and surface waters used for drinking-water, irrigation, bathing, and household purposes². Evidence suggests that improving service levels towards safely managed drinking-water or sanitation such as regulated piped water or connections to sewers with wastewater treatment can dramatically improve health by reducing diarrheal disease deaths³.

Despite significant improvement in social, economic, and environmental aspects, India's Solid Waste Management (SWM) systems have remained mostly unchanged. New management systems and waste management facilities are required to move to more sustainable SWM.⁴ In a country like India, numerous elements such as government policy, legislative foundation, and budgetary provision, as well as social and cultural perspectives, all play a role in maintaining an efficient waste management system.⁵

Another sector is energy. Due to a growing population and increasing energy demands, India's rural areas have an urgent need for sustainable energy. More than half of the people living in rural areas of India don't have access to electricity. The usage of conventional energy sources including biomass, coal, and kerosene has grown increasingly unsustainable due to a rise in energy demand.⁶ This has significantly increased air pollution, which has had a negative impact on community health. Additionally, the usage of these resources has had an effect on the ecosystem in terms

¹ Sashakt Bharat- Sabal Bharat (Empowered and Resilient India)- Voluntary National Review: 2020

² [Water, sanitation and hygiene \(WASH\) \(who.int\)](https://www.who.int/water-sanitation-and-hygiene)

³ Ibid

⁴ Kumar S. Smith S. et al. (2017 March 22) *Challenges and opportunities associated with waste management in India*. Royal Society Open Science. <https://doi.org/10.1098/rsos.160764>

⁵ Priti, Mandal, K. (2019 June 03) *Review on evolution of municipal solid waste management in India: practices, challenges, and policy implications*. Journal of Material Cycles and Waste Management. Vol 21, 1263–1279.

⁶ Tiwari, A., Mandal, P., & Patra, A. (2019). *Sustainable Energy Solutions for Rural India: A Comprehensive Review*. Renewable and Sustainable Energy Reviews, 112, 105-116. <https://doi.org/10.1016/j.rser.2019.05.006>



of deforestation, soil erosion, and other issues. In order to establish a sustainable and healthy environment in India's rural areas, clean energy sources are essential.⁷

GAIL (India) Limited, being a socially responsible public sector unit, recognizes the necessity of addressing the above- mentioned issue and contributed towards providing. The project's goal was to enhance cleanliness in Kamrup and provide safe drinking water and renewable and clean sources of energy to schools in the district.

Thereby, in alignment with the thematic areas as mentioned in the Schedule VII of the Companies Act, 2013, GAIL collaborated with UPSICL for providing one RO water plant and one solar hybrid pack (2 KVA) each to 32 government schools in Kamrup to help in solving the issues in availability of clean water and availability of electricity for majority of the days. GAIL also provided for 44 tricycle rickshaw twin-bin dustbins to the district administration to aid the process of waste collection and waste segregation in the district of Kamrup, Assam.

To evaluate the impact of the project and understand the perception of the stakeholders, GAIL (India) Limited empaneled KPMG to conduct an impact assessment study. Along with stakeholder consultations, review of documents and data provided by the team was undertaken to understand the objective and coverage of the project. Subsequent to the desk review, key performance indicators were identified and finalised, in consultation with the programme team. For the purpose of this study, OECD- DAC (Organisation for Economic Co-operation and Development- Development Assistance Committee) framework was used for developing the research tools (questionnaires for qualitative surveys) and evaluating the impact created.

As per the impact assessment, 100% of the respondents interviewed and engaged in the FGDs reported that all the installed RO water plants are fully operational in their schools. They also stated that after the intervention, the beneficiaries' access to clean drinking water had significantly improved. 23% of the respondents rated the intervention of the RO water plants as 3, while the remaining 77% rated the project as a 4.

All of the respondents reported that the intervention has benefitted them by improving their access to electricity. Due to the intervention, 100% of the respondents agreed that the installation of the solar hybrid power packs has helped in improving the availability of reliable electricity in the schools and has increased access to electricity for 22 to 24 hours per day. 100% of the respondents also stated that the intervention has positively impacted their overall education and helped in improving their attendance due to regular and extended availability of electricity in the schools. 92% of the respondents interviewed rated the intervention of the installation of solar hybrid power packs as 4, while the remaining 8% rated it as 5.

After the intervention, the rickshaw dustbins provided by GAIL were successful in aiding the process of waste segregation at source and waste collection from households and fixed dustbins in the districts.

Lastly, the GAIL project implemented in Kamrup, Assam scored an average of 93% which is impactful.

⁷ Tiwari, A., Mandal, P., & Patra, A. (2019). *Sustainable Energy Solutions for Rural India: A Comprehensive Review*. *Renewable and Sustainable Energy Reviews*, 112, 105-116. <https://doi.org/10.1016/j.rser.2019.05.006>



1.2 Introduction

1.2.1 CSR at GAIL

GAIL (India) Limited, conferred with the status of Maharatna in 2013, is India's leading natural gas company with diversified interests across the natural gas value chain of trading, transmission, LPG production, LNG- regasification, petrochemicals, city gas, etc. It owns and operates a network of around 14617 km of natural gas pipelines spread across the length and breadth of country. GAIL firmly believes that meeting people's needs, enhancing communities, and safeguarding the environment will ultimately determine how long progress can be sustained.

Pursuant to the provisions of the Companies Act, 2013 and rules made thereunder including the statutory modifications/ amendments from time to time as notified by the Government of India, GAIL (India) Limited earmarks two percent of its average net profit of the preceding three financial years towards achieving its CSR objectives through implementation of meaningful and sustainable CSR programmes.

1.2.2 GAIL CSR Vision

GAIL, through its CSR initiatives, will continue to enhance value creation in the society and in the community in which it operates, through its services, conduct & initiatives, so as to promote sustained growth for the society and community, in fulfillment its role as a Socially Responsible Corporate, with environmental concern.

1.2.3 GAIL CSR Objectives

- Ensure an increased commitment at all levels in the organization, to operate its business in an economically, socially & environmentally sustainable manner, while recognizing the interests of all its stakeholders.
- To directly or indirectly take up programmes that benefit the communities in & around its work centres and results, over a period of time, in enhancing the quality of life & economic well-being of the local populace.
- To generate, through its CSR initiatives, goodwill, and pride for GAIL among stakeholders and help reinforce a positive & socially responsible image of GAIL as a corporate entity.



1.2.4 About the project/programme

Global concerns like climate change, poverty, and disease are becoming increasingly critical, and this has increased the necessity for developmental activities around the world. Developmental activities are crucial for promoting economic expansion and giving individuals the chance to improve their quality of life. They are also critical to solving international issues and advancing the development of a world that is more prosperous and equitable.

Developmental activities can take many different forms, including investments in infrastructure, health and education initiatives, and job creation schemes. Fiscal policies that lessen inequality, support entrepreneurship, and advance sustainable development can also be incorporated.

In India's case, the population of the country has increased significantly throughout the years, with the majority of people living in rural areas. The existing resources, particularly the energy supply and the WASH facilities, have been severely strained as a result. The sustainable development of these rural areas depends on having access to WASH facilities and clean energy sources.

Access to clean water

Every year, diseases linked to poor sanitation, hygiene, and drinking water cause millions of deaths.⁸ Young children are especially at risk because WASH-related illnesses are still among the major fatalities for children under the age of five, and they also entail stunting and malnutrition. Every year, over 300,000 diarrhea related deaths in children under the age of five are attributed to insufficient WASH.⁹

In the country, the government oversees approximately 69% of all schools.¹⁰ Additionally, just 13% of all schools in the country have fulfilled the RTE criteria for a 1:30 teacher-to-student ratio, ramp availability, drinking water availability, sanitation, etc.¹¹ Physical infrastructure, according to the World Bank, has a big impact on students' enrollment, attendance, graduation rates, and learning outcomes.¹² Furthermore, providing adequate water, sanitation, and hygiene (WASH) facilities in schools helps to 'improve access to education and learning outcomes, particularly for girls, by fostering a safe, inclusive, and equitable learning environment for all'.

Access to clean water and sanitation as well as sustainable management of water resources are crucial for increasing economic output and yielding large returns on current investments in health and education.¹³ One of the best methods for improving health and eradicating poverty is providing access to clean water.¹⁴

In order to provide children with hygienic and secure drinking water, RO water systems in schools are highly needed in India.

⁸ [SDG Goal 6: Clean Water and Sanitation - UNICEF DATA](#)

⁹ Ibid

¹⁰ U-DISE

¹¹ https://www.orfonline.org/research/ten-years-of-rte-act-revisiting-achievements-and-examining-gaps-54066/#_edn1

¹² <https://policytoolbox.iiep.unesco.org/policy-option/school-infrastructure/>

¹³ [GOAL 6: Clean water and sanitation | UNEP - UN Environment Programme](#)

¹⁴ [Water, sanitation and hygiene \(WASH\) - India \(who.int\)](#)



The installation of RO water plants in schools is crucial to ensuring children's health and safety. The clean, safe drinking water that RO water plants can produce is devoid of dangerous bacteria, viruses, and other pollutants. In addition to saving students from having to purchase expensive and perhaps unsafe bottled water, this can lower the occurrence of infections and disorders that are transmitted through water.¹⁵

According to the Economic survey of Assam, the district of Kamrup has around 124 government/provincialized high and higher secondary schools and among them, around 112 schools have available drinking water facilities.¹⁶ But a portion of these did not have access to clean drinking water available. Due to this, the risk of water-borne diseases increases among school-going children and results in decrease in school retention rates and attendance rates as well.

Access to clean energy

Due to a growing population and increasing energy demands, India's rural areas have an urgent need for sustainable energy. More than half of the people living in rural areas of India don't have access to electricity. The usage of conventional energy sources including biomass, coal, and kerosene has grown increasingly unsustainable due to a rise in energy demand.¹⁷ This has significantly increased air pollution, which has had a negative impact on community health. Additionally, the usage of these resources has had an effect on the ecosystem in terms of deforestation, soil erosion, and other issues. In order to establish a sustainable and healthy environment in India's rural areas, clean energy sources are essential.¹⁸

The Jawaharlal Nehru National Solar Mission (JNNSM), which aims to increase solar energy use in India, was established in 2010. The government of India has made it a priority to support ecologically responsible growth while resolving the country's concerns with energy security. By establishing the regulatory framework for solar energy's rapid and widespread dissemination throughout the country, this mission seeks to position India as a pioneer in the field. Both the public and commercial sectors have largely backed the project, and several businesses have made significant investments. India has become a significant player in the global solar energy market owing to this mission.¹⁹

India's rural communities have an evident demand for renewable energy. In addition to offering consistent and economical electricity, clean energy sources also lessen air pollution and aid in preventing climate change. The adoption of sustainable energy sources in rural areas of India is expected to grow in the years to come with the continuous deployment of government programmes and financial incentives.²⁰

¹⁵ Waterlogic. (n.d.). The Benefits of Installing a Water Purifier in School. Retrieved from <https://www.waterlogic.com/en-gb/blog/water-purifier-in-school/>

¹⁶

https://des.assam.gov.in/sites/default/files/swf_utility_folder/departments/ecostat_medhassu_in_oid_3/this_comm/economic_survey_assam_2021-22.pdf

¹⁷ Tiwari, A., Mandal, P., & Patra, A. (2019). *Sustainable Energy Solutions for Rural India: A Comprehensive Review*. *Renewable and Sustainable Energy Reviews*, 112, 105-116. <https://doi.org/10.1016/j.rser.2019.05.006>

¹⁸ Tiwari, A., Mandal, P., & Patra, A. (2019). *Sustainable Energy Solutions for Rural India: A Comprehensive Review*. *Renewable and Sustainable Energy Reviews*, 112, 105-116. <https://doi.org/10.1016/j.rser.2019.05.006>

¹⁹ [https://www.seci.co.in/upload/static/files/mission_document_JNNSM\(1\).pdf](https://www.seci.co.in/upload/static/files/mission_document_JNNSM(1).pdf)

²⁰ Rahman, S. (2018). *A Comprehensive Overview of Renewable Energy in India*. Retrieved from https://www.researchgate.net/publication/326526143_A_Comprehensive_Overview_of_Renewable_Energy_in_India



Access to waste collection and management facilities

In order to combat both environmental deterioration and climate change, waste management has become a significant aspect. The world is moving toward a circular economy, where products are reused or recycled to cut down on waste production. Today's world requires a proper solid waste management system more than ever to combat climate change.²¹

Despite substantial progress in the social, economic, and environmental aspects, India's Solid Waste Management (SWM) systems have mostly stayed static. In order to transition to more sustainable SWM, new management systems and waste management facilities are needed.²² In a country like India, several factors like government policy, legislative basis, and financial provision, as well as social and cultural perspective also play a significant role in ensuring an efficient system for waste management.²³

To address the variegated landscape of the country as well as the significant WASH sector components that need attention for improvement, the Swachh Bharat Abhiyan was introduced in 2014. The initiative aimed to raise awareness and improve infrastructure to support the development of sustainable sanitation, hygiene, and waste management systems in the nation. The campaign sought to engage in home, workplace, village, and city cleanliness, which would result in a significant decrease in waste and pollution. The effort placed a strong emphasis on the creation of effective waste disposal and sanitary systems. The programme considered these actions important in order to uphold the nation's morale and cleanliness, combined with strict adherence to the law.²⁴

Providing adequate sewage infrastructure, public restrooms, and garbage disposals across the nation was another priority of the programme. Since inappropriate waste disposal often has the greatest impact in the country, collective education of the population was prioritised in order to maintain clean and healthy communities.

GAIL's Intervention

In a step towards improving access to clean water, clean energy and adequate waste collection and management facilities, GAIL (India) Limited, in alignment with its CSR ambitions, collaborated with UPSICL in 2019 to develop and implement a project to help in the provision of RO water plants and solar hybrid packs in schools and tricycle rickshaw twin-bin dustbins to the district administration of North Guwahati, Kamrup, Assam. The project's goal was to enhance cleanliness in Kamrup and provide safe drinking water and renewable and clean sources of energy to schools in the district.

The solar power packs were installed in the schools to aid in the effective functioning of the RO water plants in the schools, as the electricity supply at these schools were

²¹ Bhattacharya S. Chatterjee S. & Sachdev B. (2021 November) *An Examine on the Solid Waste Management System in Urban India and Its Impact on Climate Change*. International Journal of Innovative Research in Science, Engineering and Technology. Vol. 10, Issue 11.

²² Kumar S. Smith S. et al. (2017 March 22) *Challenges and opportunities associated with waste management in India*. Royal Society Open Science. <http://doi.org/10.1098/rsos.160764>

²³ Priti, Mandal, K. (2019 June 03) *Review on evolution of municipal solid waste management in India: practices, challenges, and policy implications*. Journal of Material Cycles and Waste Management. Vol 21, 1263–1279.

²⁴ Singh S. Kunwar N & Sharma A. (2018) *Impact of Swachh Bharat Abhiyan in Indian society*. International Journal of Home Science 2018; 4(1): 215-219



unreliable and were not efficient enough to manage the electric load of the RO plants at all times.

The project was implemented between 18th February 2020 to 31st July 2020. The GAIL CSR team, with the help of the UPSICL team, provided one RO water plant and one solar hybrid pack (2 KVA) each to 32 government schools in Kamrup to help in solving the issues in availability of clean water and availability of electricity for majority of the days. The teams also provided 44 tricycle rickshaw twin-bin dustbins to the district administration to aid the process of waste collection and waste segregation in the district of Kamrup, Assam.

1.3 About the Implementing Agency

For the purpose of comprehensive development of small industrial units of the state, Assam Small Industries Corporation Limited (UPSICL) was established in June 1958 as a wholly Government owned company. To fulfill its objectives, the corporation is providing assistance to the small-scale industrial units of the state. The main objective of the organization is to provide various raw materials like iron, steel, coal etc. to small scale units.

Additionally, the organization is also involved in establishment and maintenance of the industrial establishments of the Directorate, providing marketing assistance to small scale entrepreneurs, establishing industrial estates and clusters in backward areas etc.

U.P. Small Industries Corporation Limited is the only corporation of the state government which is responsible for the MSME of the state. For the comprehensive development of the industrial units, UPSICL has been established by the Government of Assam. This has aided in enhancing the industrial development of the state. For the purpose of this project, GAIL collaborated with UPSICL for installation of RO water plants and solar hybrid power packs in government schools and provision of tricycle rickshaw twin bins to the district administration of North Guwahati, Kamrup, Assam.

The scope of work for UPSICL was to liaison with the GAIL CSR team, the district administration, public offices, local government bodies, government schools and beneficiaries to aid the proper implementation of the project.

1.4 Methodology and Approach

GAIL has been implementing successful CSR initiatives based on community needs. A third-party evaluation of the results attained is essential given the dynamic nature of the social development programmes deployed. This impact assessment aims to explain what has been done well and what can be done moving forward. It will not only assist in determining the significance of the project, including the efficiency of project design and interventions, sustainability of results, and impact of the intervention on the target community, but it will also provide guidance for expanding or replicating the successful initiatives while redesigning or ending the projects/initiatives that were unable to have the intended impact.

The impact assessment is intended to provide key insights on the following questions:

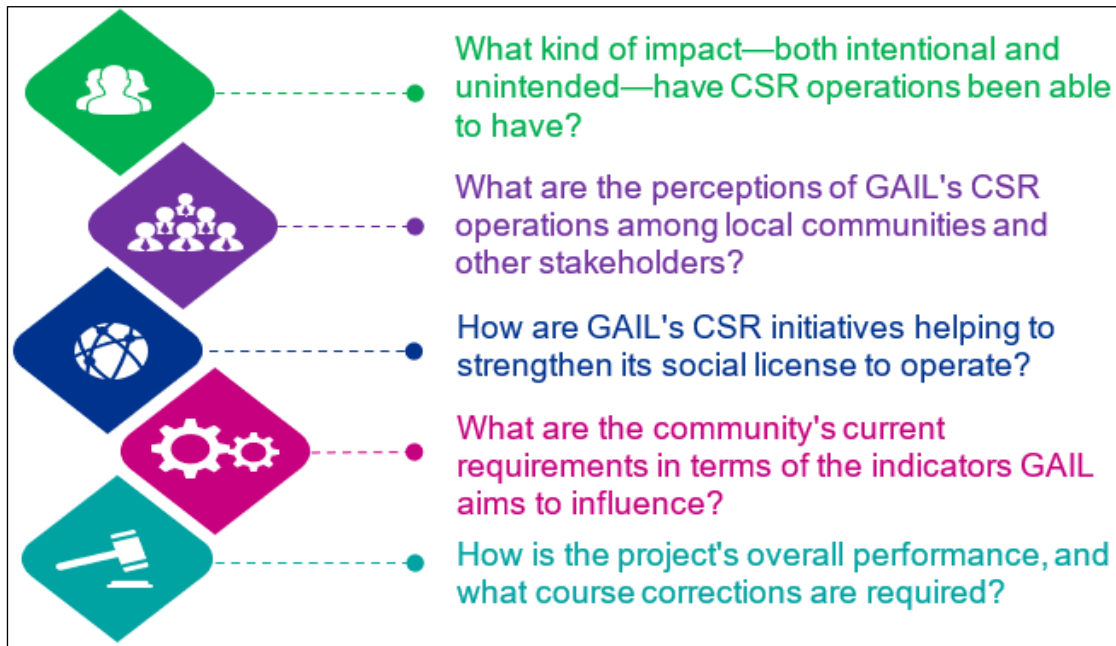


Figure 1: Research questions

The study was conducted through a combination of qualitative and quantitative data collection techniques. These include in-depth interviews and focus group discussions with beneficiaries and key stakeholders, as well as secondary research in the relevant thematic areas for a baseline perspective.

1.4.1 OECD DAC: Evaluation Criteria

Given the fundamental approach for conducting an impact study, the OECD-DAC (Development Assistance Committee) Evaluation Network's framework is well regarded for assessing the efficacy of development programmes. In response to the need for a method through which bilateral development agencies could monitor the financing supplied to multilateral organisations for various development initiatives, the DAC Evaluation Network developed a set of evaluation criteria for measuring the performance of any development project (UNICEF, 2012).

In 1991, the OECD Development Assistance Committee (DAC) devised the criteria for assessing international development cooperation. They are now widely used beyond the DAC and have established themselves as a cornerstone of evaluation methodology. These standards have routinely been used for international donors, including UN agencies (OECD, 2020).

The OECD DAC Network has identified six evaluation criteria and two principles for their application: relevance, coherence, effectiveness, efficiency, impact, and sustainability. These criteria are meant to help facilitate evaluations. They were revised in 2019 to improve the accuracy and utility of assessment and to strengthen evaluation's contribution to sustainable development (OECD, 2020).

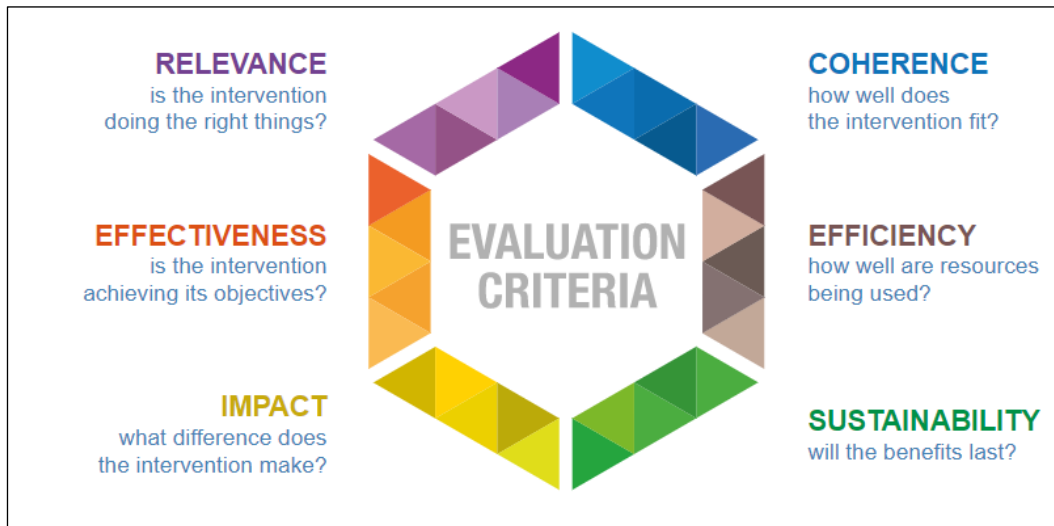


Figure 2: OECD DAC Evaluation Criteria

1.4.2 Geographical Scope

The impact assessment for this project covered 1 state and 1 district.

	State	Districts
Under GAIL CSR's initiative	Assam	Kamrup

Table 1: Geographical Scope

1.4.3 Sampling Strategy

The sample size for this study has been calculated using purposive sampling methodology. Out of the total population, a sample size of 25 was chosen for the study. This was done keeping in mind the beneficiary spread as well as collecting data from diverse stakeholders. The sample size covered for the study was 25. Duplication of responses were also avoided to ensure opinion of all stakeholders is covered adequately.

1.4.4 Sample Coverage

An actual sample of 27 was covered across the state of Assam. The sample is divided among beneficiaries (students from the government schools) and teachers, principals/headmasters and district administration.

1.4.5 Data Collection and Analysis

KPMG carried out the data collection exercise virtually with assistance from GAIL CSR SPOCS in Kamrup, Assam.

In-depth interviews were conducted with the relevant stakeholders, with the help of pre-designed questionnaires, through field visit to the government schools in Kamrup. The data was later updated and translated into excel sheets. Following data collection and cleaning, the data was analysed, and the outcomes were utilised to assess the project's impact.

1.4.6 Stakeholder Map

Stakeholders play an imperative role in project implementation on the ground. Stakeholder involvement can offer insightful information that aids in making critical decisions for the organisation. They can aid in designing improved guidelines, processes, and systems, as well as future communications and plans.



Figure 3: Sample beneficiaries of the project

Institutions and stakeholders taking part in the exercise include:

Project	Type of Stakeholder	Number of stakeholders
	Beneficiaries (Students)	19



Support for development activity under Swachh Bharat and related missions in North Guwahati, Kamrup district (FY 19-20 & 20-21)	School-level stakeholders (Teachers, Principals)	4
	District-level stakeholders (District administration)	2
	GAIL CSR Project SPoC	1
	Implementing Agency SPoC	1

Table 2: Stakeholders involved in the sampling



1.4.7 Impact Map

Thematic Area	Location	Project Name	Implementing Agency	Overall Objective	Key Activities	Key Outputs	Key Outcomes	Impact
Promoting preventive healthcare and sanitation [Item no. (i), Schedule VII of Companies Act]	North Guwahati, Kamrup district, Assam	Support for development activity under Swachh Bharat and related missions in North Guwahati, Kamrup district (FY 19-20 & 20-21)	UPSICL	Enhancement of cleanliness in Kamrup, provision of safe drinking water & provision of renewable & clean energy	<ul style="list-style-type: none"> Provision of 44 trolley/tricycle rickshaws with blue-green dual dustbins in Kamrup district Supply, installation & commissioning of 32 RO plants with a capacity of 100 LPH in Kamrup district Supply, installation & commissioning of 32 solar hybrid power packs of 2000 Wp and 2 KVA. 	<ul style="list-style-type: none"> No. of trolley/tricycle twin bins provided No. of RO water plants provided No. of solar hybrid power packs provided No. of beneficiaries making use of the dustbins, RO plants & solar packs 	<ul style="list-style-type: none"> Reduction in waste generated in the open Quantity of wet waste & dry waste segregated monthly Increased access to clean drinking water % Beneficiaries reporting reduction in diseases due to contaminated water Improved access to electricity in the schools Improved functioning of RO water plants due to solar hybrid power packs Increase in duration of electricity access 	<ul style="list-style-type: none"> Improved health & hygiene conditions & proper sanitation in the district. Improved access to clean drinking water. Improved electricity provision in the schools.

Table 3: Impact map from the project



1.5 Scoring Matrix

A scoring guideline was designed where OECD- DAC parameters were scored and bundled basis our understanding of the project and availability of information. Weights were assigned to the bundled OECD- DAC parameters. Also, a parameter on branding was included to understand the community's awareness on the project. Various components within the parameters have been assigned scores. Weights and scores have been used to compute the overall score for each district.

The following scoring matrix was developed to rate the performance of the projects across districts:

OECD Parameters	Indicators	Weightage	Combined Weightage
Relevance	Needs Assessment Report	20%	W1: 40%
	Relevance to target beneficiaries	50%	
	Alignment to SDGs	30%	
Coherence	Alignment with national policy	50%	
	Alignment with GAIL CSR policy	50%	
Efficiency	Timeline Adherence: Project Completion	40%	
	Duplication	20%	
	Adherence: Budget	40%	
Effectiveness	Identification of problem	25%	
	Process driven implementation strategy	25%	
	Qualified implementation team	25%	
	Targeted beneficiaries	25%	
Impact	Improvement in access to clean drinking water in schools	25%	
	Improvement in access to renewable and reliable energy in schools	25%	
	Improvement in sanitation and waste collection facilities in the district	25%	
	Positive community perception	25%	
Branding	Visibility (visible/word of mouth)	100%	W3: 10%
Sustainability	Sustainability Mechanism, Convergence	100%	W4: 10%
Score= W1*Average (Relevance, Coherence) + W2*Average (Efficiency, Effectiveness, Impact) + W3* (Branding) + W4* (Sustainability)			

Table 4: Scoring Matrix

1.6 Impact Assessment

1.6.1 Relevance of Intervention

Relevance is a measure of how much the intervention objectives and design respond to the needs, beliefs, and priorities of the beneficiaries and continue to do so even if circumstances change.

Relevance measures how effectively a programme is aligned with the goals and policies of the Government in which it is implemented. It also aims to know if the programme is relevant to the needs of the beneficiaries. The program's relevance is understood in this context in terms of community needs as well as linkages to existing Government operations.

The majority of people in India live in rural areas, and the population has grown significantly over the years. As a result, the available resources, particularly the electricity supply and the WASH facilities, are under a considerable amount of strain. The availability of WASH facilities and clean energy sources is essential for the sustainable development of such rural communities. In order to boost economic productivity and generate significant returns on present investments in health and education, access to clean water, sanitation, and water resource management are essential. Making clean water accessible is among the best ways to enhance health and end poverty. Due to a growing population and rising energy demands, India's rural areas require sustainable energy as well. Clean energy sources not only provide reliable and affordable electricity, but they also reduce air pollution and help stop climate change.



Figure 4: Beneficiaries of the intervention

The project was implemented to assist in the provision of RO water plants and solar hybrid packs in government schools, as well as tricycle rickshaw twin-bin dustbins to the district administration of North Guwahati, Kamrup, Assam, in order to improve access to clean water, clean energy, and adequate waste collection and management facilities. The project's purpose was to improve the state of cleanliness in Kamrup, Assam and supply safe drinking water as well as renewable and clean energy sources to the district's schools.

100% of the respondents agreed that the RO water purifiers have helped in improving their access to clean drinking water in the school premises. All of the respondents also stated that the solar hybrid power packs installed in the schools have helped in improving the situation of supply of electricity and thus, aided in making sure that the installed RO water plants function efficiently at all times.

1.6.2 Coherence of Intervention

Coherence refers to the compatibility of the intervention with other interventions in a country, sector, or institution.

It measures the extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa.

I. Alignment of the programme with National Priorities - Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs), commonly recognized as the global goals, were established in 2015 by all United Nations members with the purpose of eradicating poverty, protecting the environment, and ensuring that everyone lives in peace and prosperity by 2030. India was a significant contributor to the development of the SDGs and is committed to achieving them by 2030.



SDG Goal	Target	Sub-targets ²⁵	Relevance
GOAL 4	Quality Education	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	The intervention has positively impacted the overall education of the student beneficiaries and helped in improving their attendance due to availability of clean drinking water and reliable electricity in the target government schools.
GOAL 6	Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	The goal of the intervention was to provide RO water plants to aid the provision of clean drinking water in the target government schools. The intervention

²⁵ <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>



		6.b Support and strengthen the participation of local communities in improving water and sanitation management	also helped in providing rickshaw dustbins to aid the process of waste collection in the target district.
GOAL 7	Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	The intervention aided in the provision of clean and reliable source of energy through the installation of solar hybrid power packs in the target schools.

Table 5: Associated SDG Goals

II. Coherence with national priorities:

The project is further aligned with the national and state government goals, policies, and initiatives, as listed below:

Project	Description	Coherence
Jal Jeevan Mission	Jal Jeevan Mission (JJM), announced on 15 th August 2019 by the Prime Minister, is under implementation in partnership with States to make provision of assured tap water supply in adequate quantity, of prescribed quality, with adequate pressure, on a regular and long-term basis in all rural households and public institutions, viz., schools, Aanganwadi centres, ashramshalas (tribal residential hostels), public/ community health centres, sub-centres, wellness centres, community centres, gram panchayat buildings, etc., by 2024. The mission is making concerted efforts to improve public health as well as free women from the age-old drudgery of fetching water from a distance carrying heavy loads. ²⁶	The project aimed at providing RO water plants at the target school to improve access to clean drinking water for beneficiaries. This is in line with the national scheme of Jal Jeevan Mission as the project also aims to provide quality water through installation of taps in all rural households and public institutions like schools, aanganwadis, health and wellness centres, local government offices, etc.
Off-grid Solar PV Programme	Off-grid Solar PV Applications Programme is one of the oldest programmes of the Ministry aimed at providing solar PV based	The project aimed at providing solar hybrid power packs in the target schools to improve access to renewable

²⁶ <https://jalshakti-ddws.gov.in/sites/default/files/annual-report-2021-22-eng.pdf>

	<p>applications in areas where grid power is either not available or is unreliable. Applications such as solar home lighting systems, solar street lighting systems, solar power plants, solar pumps, solar lanterns, and solar study lamps are covered under the programme. Under the National Solar Mission, a target of 2000 MWp was kept for off-grid solar PV applications. Under the Phase-I of the Mission from 2010-13, a target of 200 MWp was kept against which 253 MWp was sanctioned and under the Phase-II from 2013 – 17, a target of 500 MWp was kept against which 713 MWp has been sanctioned. Under Phase-III of the Off-grid and Decentralized Solar PV Applications Programme, a target of 118 MW has been kept excluding solar pumps which are to be installed under PM KUSUM Scheme and solar home lights which are being taken up under 'Saubhagya' Scheme of Ministry of Power.²⁷</p>	<p>and reliable sources of electricity. This is in line with the Off-Grid Solar PV programme as it aims to provide solar PV based applications in isolated communities/areas where grid electricity is unreachable.</p>
<p>Swachh Bharat Mission</p>	<p>To accelerate the efforts to achieve universal sanitation coverage and to put the focus on sanitation, the Prime Minister of India had launched the Swachh Bharat Mission on 2nd October 2014. Under the mission, all villages, Gram Panchayats, Districts, States and Union Territories in India declared themselves "open-defecation free" (ODF) by 2 October 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India. To ensure that the open defecation free behaviors are sustained, no one is left behind, and that solid and liquid waste management facilities are accessible, the Mission is moving towards the next Phase II of SBMG i.e., ODF-Plus. ODF Plus</p>	<p>The project aimed at providing tricycle rickshaw dustbins to the target district to improve the waste collection process. This is in line with the Swachh Bharat Mission as one of its goals is to aid in the improvement waste management systems for both solid and liquid wastes.</p>

²⁷ <https://mnre.gov.in/solar/solar-offgrid>



	<p>activities under Phase II of Swachh Bharat Mission (Grameen) will reinforce ODF behaviors and focus on providing interventions for the safe management of solid and liquid waste in villages.²⁸</p>	
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Table 6: Associated National Policies and Schemes

1.6.3 Effectiveness of Intervention

Effectiveness is defined as an assessment of the factors influencing progress toward outcomes for each stakeholder as well as validation of the robustness of systems and processes.

It aids in ensuring that the implementation and monitoring processes are sturdy in order to achieve the greatest possible social impact. The efficacy of the programme is established by examining how well the program's activities were carried out as well as the efficiency with which the program's systems and processes were implemented.

The project's goal was to help in the provision of RO water plants and solar hybrid packs in schools and tricycle rickshaw twin-bin dustbins to the district administration of North Guwahati, Kamrup, Assam. The project's goal was to enhance cleanliness in Kamrup and provide safe drinking water and renewable and clean sources of energy to schools in the district. Therefore, to successfully attain these outcomes, the project adopted the following measures:

- I. **Identification of the problem:** The primary goal of the project was to provide help in the provision of RO water plants and solar hybrid packs in schools and tricycle rickshaw twin-bin dustbins to the district administration of North Guwahati, Kamrup, Assam. To be able to deliver the best results identified for the communities and stakeholders involved, the issue was identified by GAIL, and the project was effectively developed accordingly.
- II. **Process driven implementation strategy:** The project employed a process-driven implementation strategy that includes fundamental market research to ensure a context-specific initiative, standardised activities with a set timeframe to assure quality, and pre-determined KPIs to ensure consistency.
- III. **Qualified implementation team-** GAIL along with the implementing partner, i.e., the UPSICL team were instrumental in providing a qualified team with previous expertise to overlook the execution of the project. This contributed to the preservation of implementation quality and provided prompt assistance to the intended beneficiaries.
- IV. **Targeted beneficiaries-** The goal of the project was to aid the provision of RO water plants and solar hybrid packs in schools and tricycle rickshaw twin-bin dustbins to the district administration of North Guwahati, Kamrup, Assam. The project's goal was to enhance cleanliness in Kamrup and provide safe drinking

²⁸ <https://swachhbharatmission.gov.in/sbmcms/index.htm>



water and renewable and clean sources of energy to schools in the district. The project was successful in achieving its objectives because it was able to provide the necessary facilities in the schools and the district to improve the conditions for the intended beneficiaries, i.e., the students, teachers and principals and the people of the district.

1.6.4 Efficiency of Intervention

The efficiency criterion seeks to determine whether the project was completed in a cost-effective and timely way.

The purpose is to establish whether the inputs—funds, knowledge, time, etc.—were effectively employed to create the intervention outcomes. This evaluation criterion attempts to determine whether the programme was completed on schedule and within budget.

The project has been efficiently implemented in the district of Kamrup, Assam with the support of key stakeholders.

I. Timeliness of delivery or implementation of project interventions

The programme was implemented within the given time period by GAIL with support from the UPSICL team in the target district. UPSICL submitted regular programme progress reports along with regular documentary evidence and photographs, highlighting the activities undertaken during the period of implementation, expenses incurred under each head and reasons for deviation from the same (if any).

II. Cost efficiency of project activities

Interaction with the GAIL CSR team members also revealed that there was no budget overflow and that all the activities were successfully carried out within the allotted budget. Payment milestones were clearly defined as such, and interventions were implemented in the districts in consultation with the key stakeholders.

III. Duplication/ overlap of project activities

Duplication of effort arises when similar interventions are needlessly undertaken within the same community/ location due to poor knowledge management and inadequate coordination of projects, thereby resulting in fund and resource inefficiency. In this case, the target schools lacked access to clean drinking water sources as well as reliable sources of affordable energy. Furthermore, the district needed aid in the waste collection and management processes to ensure cleanliness in the district. As a result, the developmental facilities provided by GAIL under this project was necessary for the intended beneficiaries and there was no overlap or duplication of project activities in the area.

1.6.5 Sustainability of Intervention

Sustainability assesses how well the programme secures the long-term viability of its outcomes and influence.

The continuation of a positive effect after development or aid has stopped is referred to as sustainability. This evaluation criterion contains key elements concerning the

likelihood of continuous long-term benefits and risk tolerance. To achieve sustainability, a governing framework, financial model, and operating system must be established.

The project was successfully completed by the implementing agency, i.e., UPSICL in a timely and cost-effective manner. The project helped in the provision of 32 RO water purifier plants and 32 solar hybrid power packs in the schools and 44 tricycle rickshaw dustbins to the district. Additionally, the implementing agency was efficient in handing over the RO water plants and solar hybrid power packs to the government school authorities as well as tricycle rickshaws to the District Administration, and provided them training regarding the operation and maintenance of the facilities.

Further, the implementing agency has also looked after the regular maintenance of the vehicles, with financial aid from GAIL, to ensure the continued positive impact of the intervention in the target communities.

1.6.6 Branding

The plaques over the solar hybrid packs and the RO plants showcase adequate branding and visibility of GAIL (India) Limited. The plaques contain information regarding the installation of the solar hybrid packs and RO plants, to emphasize that the project is being provided for by GAIL (India) Limited. Furthermore, all of the beneficiaries were aware that the provision of these facilities was the outcome of a GAIL CSR intervention.



Figure 5: GAIL Branding for solar hybrid power packs in government schools at Kamrup



Figure 6: GAIL Branding for RO water purifier plants in schools

1.6.7 Impact of Intervention

Impact has been measured in terms of the proportion of respondents who reported having a significant change in their lives due to the initiation of the project.

The goal of measuring the impact is to determine the project's primary or secondary long-term impacts. This could be direct or indirect, intentional, or unintentional. The unintended consequences of an intervention can be favourable or harmful.

1.6.7.1 Improved access to safe drinking water facilities

Under the Global Nutrition Monitoring Framework, the World Health Organization (WHO) defines "improved water source" as one that is protected from outside contamination, particularly fecal contamination matter.²⁹ RO water plants are increasingly regarded as an improved water source for government schools and community members owing to their ability to remove impurities and contaminants from water, making it safe for consumption.

Prior to the installation of RO water plants, all of the respondents interviewed stated that their main source of drinking water in the school premises was their own bottles of water, that they usually brought from home. The respondents from the FGD also corroborated

²⁹ www.who.int

this fact and agreed that there was no reliable source of drinking water, other than their own bottles, available at the schools before this intervention by GAIL.



Figure 7: RO water plant in one of the schools

100% of the respondents interviewed and engaged in the FGDs reported that all the installed RO water plants are fully operational in their schools. They also stated that after the intervention, the beneficiaries' access to clean drinking water had significantly improved.



Figure 8: RO water plant in one of the government schools

There are several advantages of using RO water plants as a drinking water source such as:

- **Promoting the adoption of safe water technologies:** RO water plants use a filtration process that removes harmful substances such as bacteria, viruses, heavy metals, and chemicals from water, making it safe for consumption³⁰.
- **Improved health outcomes:** By providing safe drinking water, RO water plants can help reduce incidence of water-borne illnesses and other health problems, as well as improved overall health and well-being along with increased productivity.
- **Increased efficiency:** RO water plants can help schools become efficient by reducing the need for other source of treated water, which can be time dependent and require significant storage space.
- **Reliable and sustainable water supply:** RO water plants can provide a reliable and sustainable source of water for government schools, even in areas where the water supply may be contaminated or unreliable. This can help ensure that the schools and community have access to safe drinking water even in the event of natural disasters or other emergencies.

When asked how the intervention has benefited them, 38% of respondents responded that the water available from the RO plants is safe for consumption. 31% of respondents claimed that the water is no longer contaminated as a consequence of the RO water plants, while the remaining 31% stated that the clean water from RO water plants helps them prevent water-borne diseases, hence aiding them in maintaining proper health and hygiene.

³⁰ "Reverse Osmosis Water Filtration in Healthcare Settings." Water Quality Products, vol. 12, no. 11, 2008, pp. 58–60.

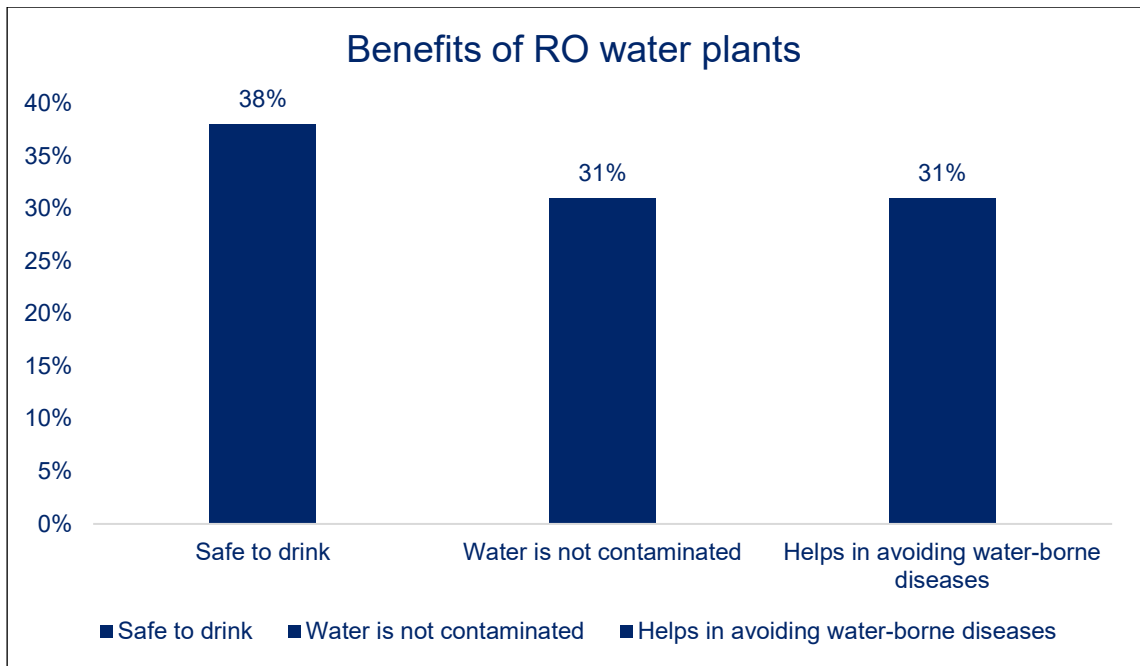


Figure 9: Categories of improvement after the intervention

Prior to the installation of the RO water facilities, 54% of the respondents interviewed reported suffering from a variety of water-borne ailments such as stomach aches, diarrhoea, vomiting, and so on. The other 46% of respondents did not record the incidence of any such ailments because they avoided drinking water from school-provided sources in order to keep from contracting such illnesses. All of the respondents attributed these ailments to the availability of unsafe and contaminated drinking water available in the schools.



Figure 10: RO water plant in one of the schools

Post the intervention, 100% of the respondents reported a significant improvement in this aspect and highlighted the decrease in the prevalence of such water-borne diseases



among the students after the installation of the RO water plants in the schools. The respondents of the FGDs also corroborated this point.

The respondents also highlighted the fact that there was an increase in the frequency of students coming to school post the installation of the RO water plants. This can be attributed to the availability of safe drinking water on school premises, which led to an improvement in the health and hygiene conditions of the students. Thus, the intervention helped in aiding the overall education of the beneficiaries.

The respondents stated that the RO water plants are not in requirement of regular maintenance activities, which helps in increasing the efficiency and effectiveness in their availability to the students for use.

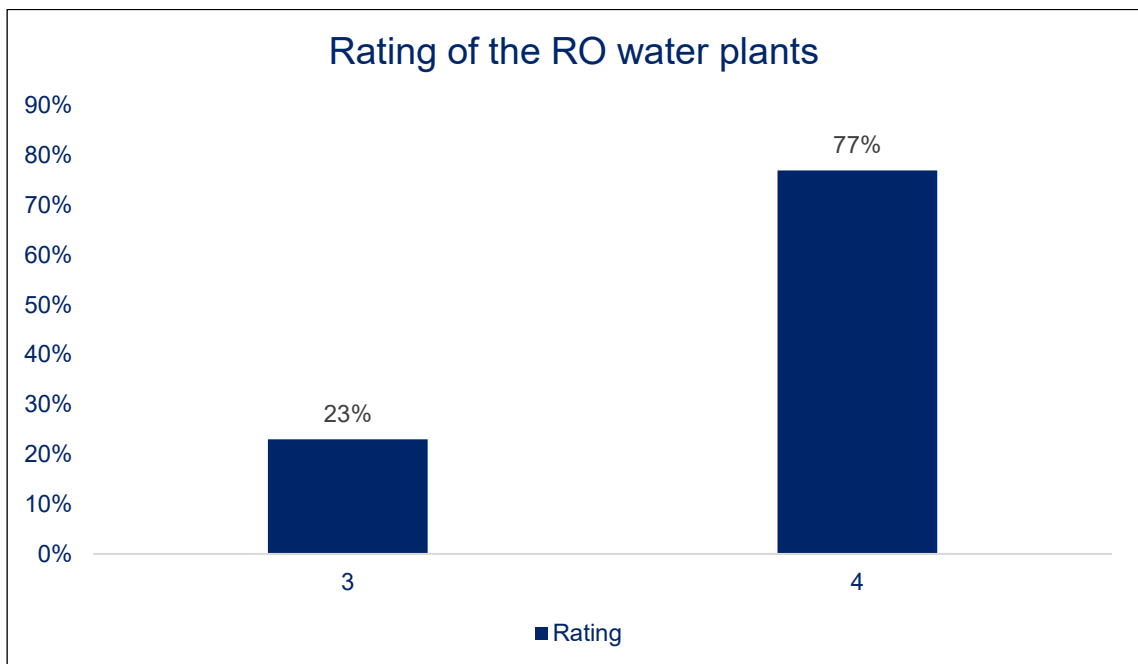


Figure 11: Rating of the RO water plants by the respondents

23% of the respondents rated the intervention of the RO water plants as 3, while the remaining 77% rated the project as a 4. They stated that the water available at the schools is not safe to drink and not contaminated. This expressed the overall satisfaction of the respondents regarding the project while highlighting the scope of expanding the intervention in the future.

1.6.7.2 Improved access to renewable and reliable source of energy/electricity

India has been currently facing an energy crisis as a result of the country's rapidly increasing demand for electricity. India's schools are not exempt from this challenge because they depend on a consistent flow of electricity and energy to operate.³¹

To address this issue, GAIL CSR implemented a project to provide solar hybrid power packs to schools in the district of Kamrup, Assam. Initially, the provision of the solar

³¹ (2020, Mach 15) Solar Hybrid Power Packs: A Perfect Fit for Schools in India. Solar Mango. Retrieved from www.solar mango.com/blog/solar-hybrid-power-packs-a-perfect-fit-for-schools-in-india/.

hybrid power packs was to aid the installation and functioning of the RO water plants provided under the same project. But, since the energy crisis has not exempted schools, the solar packs serve multiple benefits for the beneficiaries and stakeholders of this intervention.

In India, schools can benefit greatly from solar hybrid power packs since they offer a cost-effective and reliable source of electricity. These systems are low-maintenance and cost-effective, which lowers operating expenses for schools. Additionally, solar hybrid power packs can assist in reducing reliance on conventional energy sources like coal and oil, which are not only more expensive but also bad for the environment.³²



Figure 12: One of the schools with solar panels installed on the rooftop

Prior to the intervention, all respondents interviewed stated that electricity is supplied by Assam Power Distribution Company Limited (APDCL), a public limited company wholly owned by the Government of Assam. The main purpose of forming the Company was to take over, manage and operate the electricity distribution system, assets, liabilities, undertaking of the erstwhile Assam State Electricity Board (ASEB) pursuant to a notified transfer scheme in terms of Part XIII of the Electricity Act, 2003.³³

The respondents claimed that despite the fact that there weren't any frequent power cuts during the supply of electricity by APDCL to the schools, the duration of availability of electricity was about 18 to 20 hours per day.

All of the respondents reported that the intervention has benefitted them by improving their access to electricity.

Due to the intervention, 100% of the respondents agreed that the installation of the solar hybrid power packs has helped in improving the availability of reliable electricity in the schools and has increased access to electricity for 22 to 24 hours per day. The respondents engaged in FGDs corroborated this statement.

³² Bhattacharjee, G. (2021, Jan 19) *Why Solar Hybrid Power Packs Are Good for Schools?* Sunshot Solar. Retrieved from www.sunshotsolar.in/blog/why-solar-hybrid-power-packs-are-good-for-schools/.

³³ <https://www.apdcl.org/website/About>

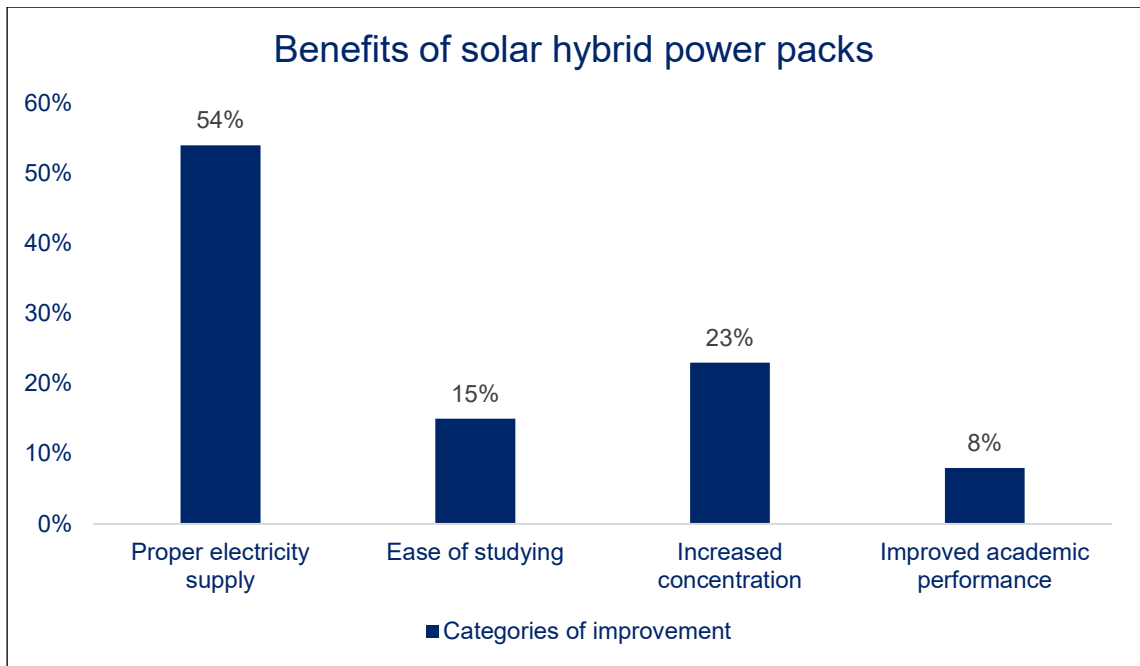


Figure 13: Categories of improvement after the intervention

100% of the respondents also stated that the intervention has positively impacted their overall education and helped in improving their attendance due to regular and extended availability of electricity in the schools.



Figure 14: Solar panels installed on the rooftop of one of the schools

The installation of solar hybrid power packs has also fulfilled the initial objective of providing reliable electricity for the operation of the RO water plants, as verified by all the respondents interviewed as well as the respondents of the FGDs.

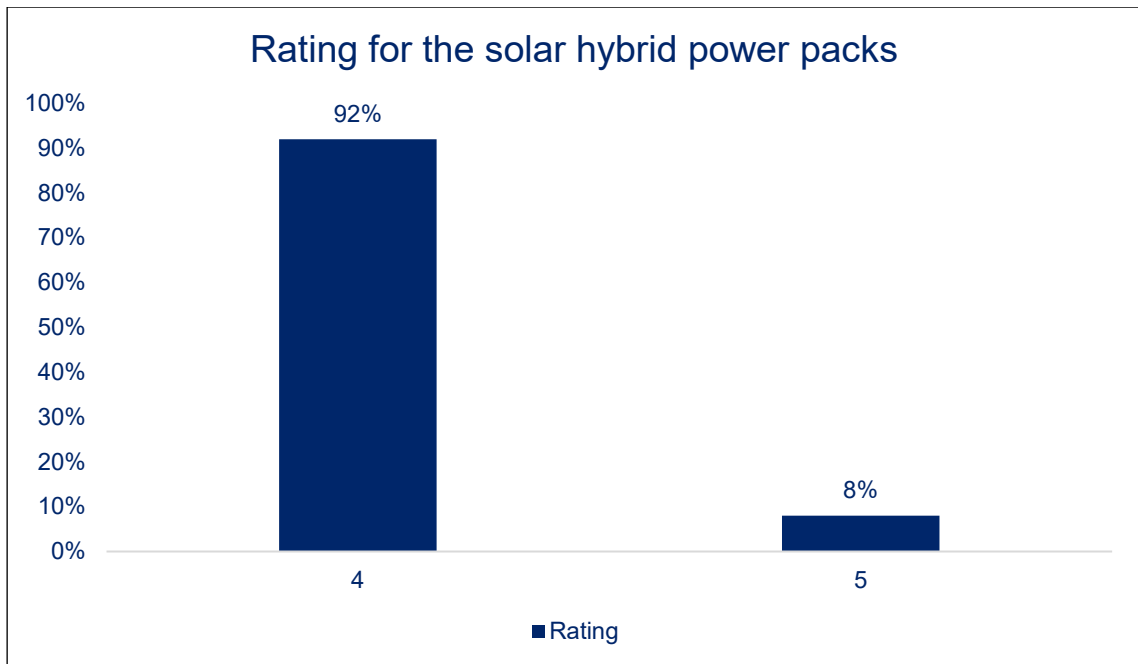


Figure 15: Rating of the solar hybrid power packs by the respondents

92% of the respondents interviewed rated the intervention of the installation of solar hybrid power packs as 4, while the remaining 8% rated it as 5. All the respondents of the FGDs conducted rated the intervention as 5.

The reasons, as given by the respondents, for the given ratings are as follows:

- Regular supply of electricity resulting in ease of study
- Regular supply of electricity resulting to increased attendance.
- Regular supply of electricity resulting in improved attendance rates.
- Regular supply of electricity leading to concentration in studies.

This highlighted the satisfaction of the respondents due to the intervention.



Figure 16: Solar hybrid power pack installed in one of the schools

The stakeholders interviewed recognized and highlighted the impact of the intervention in improving the overall performance and maintenance of proper health and hygienic conditions of the schools.

They also said that the implementing agency was efficient in the installation of the RO water plants and solar hybrid power packs in the schools, as well as training them on how to operate both following the handover.



Figure 17: Solar hybrid power pack installed in one of the schools

100% of stakeholders reported that they were happy and satisfied with the intervention, but they recommended that good quality water storage facilities be provided in addition to the RO water plants.

1.6.7.3 Improved access to waste collection facilities

Due to its rapidly expanding population, poor infrastructure, and insufficient waste collection systems, India is currently experiencing a severe waste management crisis.



The conventional municipal waste collection system is insufficient to handle the district's growing waste disposal requirements. According to the Swachh Survekshan Grameen 2022 report, at the national level, vehicles or other arrangements for door-to-door or fixed-point waste collection were provided in 32.9% of the sampled municipalities.³⁴

Prior to the intervention, the stakeholders interviewed claimed that the need for solution to solve the challenge of waste collection from door to door and from fixed dustbins was identified in the district. It was also identified that the use of rickshaw dustbins is one method for improving waste collection process.

In districts, using rickshaw dustbins for waste collection and transportation is affordable and effective. The waste from homes, workplaces, and public areas can be collected using these dustbins, which are attached on the back of rickshaws. The waste that has been collected can then be delivered to designated disposal facilities. The frequency of journeys to the disposal site is decreased owing to this method, which removes the need for large, expensive waste collection vehicles.³⁵

Prior to the intervention, the district was unable to facilitate regular waste collection, and tipper trucks were occasionally utilised to collect all waste and transport it for processing at the treatment plants. When asked about the waste segregation procedure, stakeholders stated that it is done at the household level. The manually segregated and collected waste was then hauled away to the treatment facility by tipper trucks, and routine collection is carried out either by the tipper or manually by workforce of private agencies.

After the intervention, the rickshaw dustbins provided by GAIL were successful in aiding the process of waste segregation at source and waste collection from households and fixed dustbins in the districts.

The dustbins are now not in use because the waste collection staff found it difficult to use and were uncomfortable using the rickshaws for waste collection. Some of them, which were initially used by some workers, were damaged and now require maintenance and improvement to be functional.

1.7 Overall rating of the project

The scoring matrix was used to evaluate and score performance of the project. The following table provides the overall rating across the defined parameters:

Location	Relevance	Coherence	Efficiency	Effectiveness	Impact	Branding	Sustainability	Total Score
Kamrup, Assam	80%	100%	100%	100%	75%	100%	90%	93%

Table 7: Overall scoring of project

³⁴ <https://jalshakti-ddws.gov.in/sites/default/files/SSG-2022-Report.pdf>

³⁵ Bhattacharjee, K. (2018, November 22) *The Significance of Rickshaw Dustbins in India's Waste Management*. Medium. <https://medium.com/@kasturi.bhattacharjee/the-significance-of-rickshaw-dustbins-in-india-s-waste-management/>



The project for support for development activity under Swachh Bharat and related missions in Kamrup, Assam scored an average of **93%**. The project was aligned to GAIL's CSR policy and SDGs and were relevant to the needs of the community. The project was efficiently executed across the selected district within the allocated budget and timelines. The completion rate was 100% for the project and 100% of the beneficiaries surveyed were satisfied with the support being provided. The project's goal was to enhance cleanliness in Kamrup and provide safe drinking water and renewable and clean sources of energy to schools in the district.

Since the total score of the project came to **93%**, this project can be rated as “**Highly Impactful**” in nature.

1.8 Case Study

Case Study I: Moromi Nath, Halogaon M.V School, Kamrup Assam

Moromi is a student studying in sixth standard in Halogaon M.V School, Kamrup. His school lacked the access to clean drinking water before the intervention by GAIL. This posed a threat to the health and wellbeing of all the children in the school. They did not attend the school on a regular basis due to lack of availability of drinking water. This not only impacted their attendance but also affected their academic performance.

RO water plants use a filtration process that removes harmful substances such as bacteria, viruses, heavy metals, and chemicals from water, making it safe for consumption. By providing safe drinking water, RO water plant helped reduce incidence of water-borne illnesses and other health problems, as well as improved overall health and well-being along with increased productivity.

Provision of RO water plants in his school provided a reliable and sustainable source of water, even in areas where the water supply may be contaminated or unreliable. This helped ensure that the school and community have access to safe drinking water even in the event of natural disasters or other emergencies.

Overall, he was satisfied by the support provided by GAIL and was thankful for the provision of a clean source of drinking water in his school.

1.9 Conclusion and Way Forward

RO plants have played an important role in supplying clean and safe drinking water to the population. RO plants lower the danger of waterborne infections by purifying water, allowing people to live healthy and productive lives. It also serves as a low-cost source of drinkable water, which is required for adequate sanitation and hygiene. Furthermore, RO plants lessen the strain on local water supplies, assisting in the reduction of water scarcity and environmental deterioration.

Solar panels have been used to offer sustainable energy to isolated places with limited connection to the power grid. Solar panels are becoming more popular in India for powering homes and businesses, reducing reliance on fossil fuels. As a result, air pollution and greenhouse gas emissions have decreased, benefiting public health and the environment.

In order to improve the effectiveness of waste management in India's districts, rickshaw dustbins have been deployed. This has reduced the quantity of waste congesting streets and public spaces and improved the general aesthetic of the districts. The dustbins also



support composting and recycling, which lessens the quantity of waste that is dumped in landfills and lessens the demand on local resources.

Overall, the deployment of RO plants, solar packs, and rickshaw dustbins has improved the country's economy, public health, and ecology. The project has, thus, helped in improving the quality of life for the district community by providing clean and safe drinking water, renewable energy, and effective waste management.

However, to further maximize the impact and enhance the project outcomes, the following recommendations are suggested:

- I. **Promotion and provision of WASH-related facilities in schools:** Combining WASH programme components in schools, such as establishing toilets and drinking facilities, as well as including WASH curriculum in schools that includes foundations of handwashing, personal hygiene, and other topics, is a critical step towards holistic development of children. These are required to create a healthy school environment and to promote or encourage proper health and hygiene behaviour. A study conducted in Kerala in partnership with UNICEF indicated that after WASH programme intervention in schools, regularity in attendance rose, with students no longer feeling the need to go home in case they needed to defecate. WASH in schools has also been shown to help reduce diarrhea, soil-transmitted helminths, acute respiratory infections, and other illnesses.
- II. **Provision of adequate rickshaw dustbins:** Rickshaw dustbins are an important part of the waste collection system and can be useful if they are provided and used adequately. GAIL has provided rickshaw dustbins of the suitable size and weight to provide waste collection workers with ease of usage. The district administration should facilitate proper maintenance services to ensure the upkeep of the rickshaws and aid in the sustained beneficial impact on the community.
- III. **Community Engagement for continuum of care:** Community sensitization is a key factor in ensuring sustainable access to clean drinking water and renewable energy, as it helps create a supportive environment for change and long-term behavior change. Firstly, it is critical to educate the community on the importance of clean water clean sources of energy and the dangers associated with the consumption of contaminated water and non-renewable sources of energy. Moreover, sensitization promotes a sense of ownership and responsibility among community members to protect and maintain clean water sources as well as adopt renewable sources of energy.
- IV. **Fostering multi-stakeholder collaboration:** In continuation with the above recommendation, sensitization can bring together different community members, organizations and local authorities to work together towards a common goal of providing clean drinking water and clean and affordable sources of energy. This will not only ensure continued momentum for the purpose, but also lead to newer avenues for innovation and community participation. Thereby, collaborating and converging with the government stakeholders and aligning to the appropriate schemes can create a ripple effect as well.
- V. **Devising a holistic 360° approach:** GAIL can augment the impact created and ensure its sustainability through exploring opportunities for convergence and partnerships. The current project model is based on complete funding support from GAIL as a one-time support for provision of rickshaw dustbins. Currently, the project is not designed to provide regular maintenance services for the provided rickshaw dustbins. However, the dustbins were handed over to the District administration for proper maintenance and use.



Through encouraging convergence from other government or non-government sources, GAIL can work towards ensuring long-term support for project activities and the creation of sustained impact. Also, collaborating with NGOs with expertise in similar thematic and geographical regions could bolster both implementation as well as monitoring and evaluation processes.



Thank you



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