



GAIL (India) Limited

**Impact Assessment Report on Support for
development works under CSR in Tuni,
East Godavari, Andhra Pradesh: Supply
and erection of RO water plants (FY 19-20
& 20-21)**



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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.

Although geogenic contaminants such as arsenic, fluoride and nitrate are widespread in certain regions of India, the most ubiquitous type of contamination is microbial, and diarrhea is the third most common responsible disease for under-five mortality in India⁴. Every child has the right to a quality education, which includes access to drinking water, sanitation and hygiene (WASH) services while at school. Children spend a significant portion of their day at school, where WASH services can impact student learning, health, and dignity, particularly for girls. The inclusion of WASH in schools in the Sustainable Development Goals (targets 4.a, 6.1, 6.2) represents increasing recognition of their importance as key components of a 'safe, non-violent, inclusive and effective learning environment' and as part of 'universal' WASH access, which emphasizes the need for WASH outside of the home⁵.

GAIL (India) Limited, being a socially responsible public sector unit, recognizes the necessity of addressing the above- mentioned issue and

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

² Water, sanitation and hygiene (WASH) (who.int)

³ Ibid

⁴ Jal Jeevan Mission ambition: Jal Jeevan Mission can avert 1.3 lakh infant deaths a year - The Economic Times (indiatimes.com)

⁵ WASH in schools - UNICEF DATA



contribute towards providing safe drinking water to students in government schools of Andhra Pradesh. Thereby, in alignment with the thematic areas as mentioned in the Schedule VII of the Companies Act, 2013, GAIL collaborated with Social Empowerment and Economic Development (SEEDS) for installation of these RO plants in the government schools and panchayat locations of Tuni constituency in East Godavari of Andhra Pradesh.

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, all respondents reported increased access to safe drinking water. All of the surveyed students highlighted that RO plants help in reduction of waterborne diseases such as diarrhea, cholera, typhoid, hepatitis-A etc. and promotes good health. Around 68% of the students agreed that their frequency of coming to school has increased post-installation of RO plant. Further, 100% of the community members ranked the intervention as 4 while on an average all the students ranked the intervention as 4 too. Lastly, the GAIL project implemented in East Godavari scored an average of 96% which is highly impactful.

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

Access to water and sanitation are basic human rights and are critical sustainable development challenges. These challenges will only worsen and the impacts on people will only increase as competing demands for clean fresh water (agriculture, households, energy generation, industrial use, ecosystems) are exacerbated by the effects of climate change putting more pressure on water quality and availability⁶. Millions of people die every year from diseases associated with unsafe drinking water, sanitation, and hygiene⁷. Young children are particularly vulnerable – WASH-related diseases remain among the leading causes of death in children under the age of five, and they contribute to malnutrition and stunting⁸. Each year, 300,000 children under 5 die due to diarrhoea linked to inadequate WASH⁹.

About 69 per cent of all schools in the country are run by the government¹⁰. Furthermore, only 13 per cent of all schools in the country have achieved compliance against the RTE norms of teacher-student ratio of 1:30, provision of ramps, provision of drinking water, sanitation etc¹¹. According to the World Bank physical infrastructure plays a significant role in children’s enrolment, attendance, completion rates as well as learning outcomes¹². Furthermore, ensuring adequate water, sanitation, and hygiene (WASH) facilities in schools ‘improve access to education and learning outcomes, particularly for girls, by providing a safe, inclusive and equitable learning environment for all’.

Overall, around 2.2 billion people worldwide do not have safely managed drinking water services¹³. In India, chemical contamination of water, mainly through fluoride and arsenic, is present in 1.96 million dwellings¹⁴. Meanwhile, less than 50 per cent of the population has access to safely managed drinking water (located on-premises, available when needed and free of contamination)¹⁵. Moreover, two-thirds of India’s 718 districts are affected by extreme water depletion, and the current lack of water safety and security planning is a significant concern¹⁶. Overall, clean drinking water and proper sewage disposal have improved from 39 percent in October 2014 to over 90 percent in August 2018¹⁷.

Sustainable management of water resources and access to safe water and sanitation is essential for unlocking economic growth and productivity and provide significant leverage for existing investments in health and education¹⁸. Water safety and quality are fundamental to

⁶ [SDG 6: Ensure availability and sustainable management of water and sanitation for all – SDG Compass](#)

⁷ [SDG Goal 6: Clean Water and Sanitation - UNICEF DATA](#)

⁸ [Ibid](#)

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 [Ibid](#)

¹⁴ [Water, sanitation and hygiene | UNICEF India](#)

¹⁵ [Ibid](#)

¹⁶ [Ibid](#)

¹⁷ [Ibid](#)

¹⁸ [GOAL 6: Clean water and sanitation | UNEP - UN Environment Programme](#)

human development and well-being. Providing access to safe water is one of the most effective instruments in promoting health and reducing poverty¹⁹.

Sustainable Development Goal 6 is about "clean water and sanitation for all". It is one of 17 Sustainable Development Goals established by the United Nations General Assembly in 2015, the official wording is: "Ensure availability and sustainable management of water and sanitation for all²⁰." Improving WASH is a key priority of the Indian government which has introduced several flagship programmes including the Swachh Bharat Abhiyan to clean India, the National Rural Drinking Water Programme, and Namami Gange etc. The SDGs are highly interdependent such that the provision of clean water and sanitation for all is a precursor to achieving many of the other SDGs²¹. WASH experts have stated that without progress on Goal 6, the other goals and targets cannot be achieved²²

In a step towards improving access to clean drinking water, GAIL (India) Limited, in alignment with its CSR ambitions, collaborated with SEEDS in 2019-20, in order to make safe drinking water available in Government schools and panchayat locations through provision of RO plants in Tuni constituency of East Godavari. The implementing agency conducted a baseline survey of the proposed locations to gather data on the status of existing drinking water facilities, need assessment and space availability for construction of RO use etc. Further SEEDS submitted design parameters and detailed estimates on the basis of market analysis which included the maintenance of RO units for 1 year including warranty. The project was implemented during the period of 14th February 2020 to 14th February 2021.

The RO plants were installed in a total of 44 locations inclusive of government schools and panchayat locations with a capacity of 250 LPH, 500 LPH and 2000 LPH as per the need of these select locations.



Figure 1: Government school at Tuni constituency of East Godavari district

¹⁹ Water, sanitation and hygiene (WASH) - India (who.int)

²⁰ Clean drinking water | UNICEF India

²¹ Sustainable sanitation and the SDGs: interlinkages and opportunities - SuSanA publications (archive.org)

²² Opinion: "Sanitation, Water & Hygiene For All" Cannot Wait for 2030 | Inter Press Service (ipsnews.net)

1.3 About the Implementing Agency

Social Empowerment and Economic Development Society (SEEDS) is a non-profit organization registered under the Societies Registration Act, 1860, in 2008. It was set up to extend the support in Education, Skills and Agriculture to vulnerable communities who are at the bottom of the pyramid. Pioneered by few development professionals with the conviction to bring about a social change, SEEDS has been playing a vital role in bringing about a more and just equitable society wherein all the individuals have improved access to opportunities for growth. Delivering sustainable solutions in skills, education and agriculture, SEEDS intends to demonstrate models that have a greater impact and scalable. Given the growing number of CSR projects, to implement the same with greater efficiency without compromising on the integrity and ethos of a non-profit, SEEDS takes the CSR projects and implements with deviating from its original objective.

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:

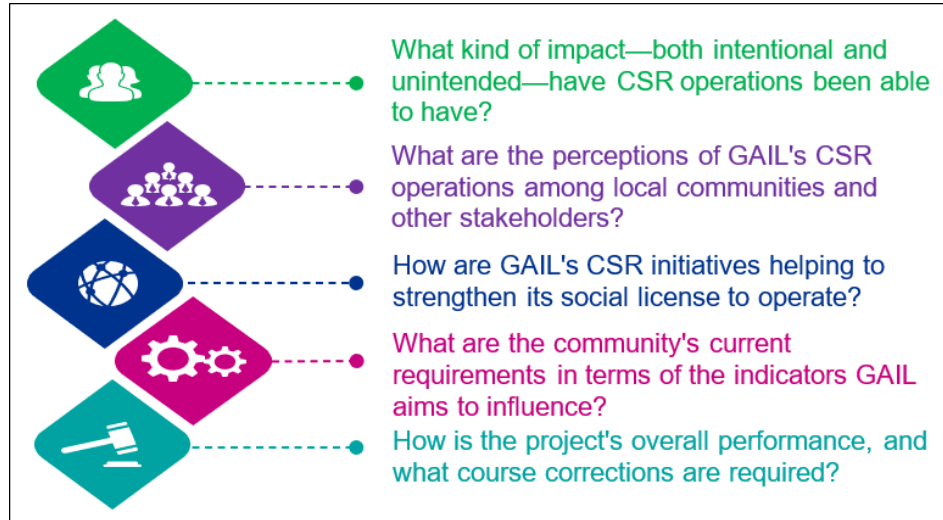


Figure 2: Research questions

The study was conducted through qualitative data collection techniques. This includes in-depth interviews with key stakeholders, as well as secondary research in the multiple 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 five evaluation criteria and two principles for their application: relevance, 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 the evaluation's contribution to sustainable development (OECD, 2020).

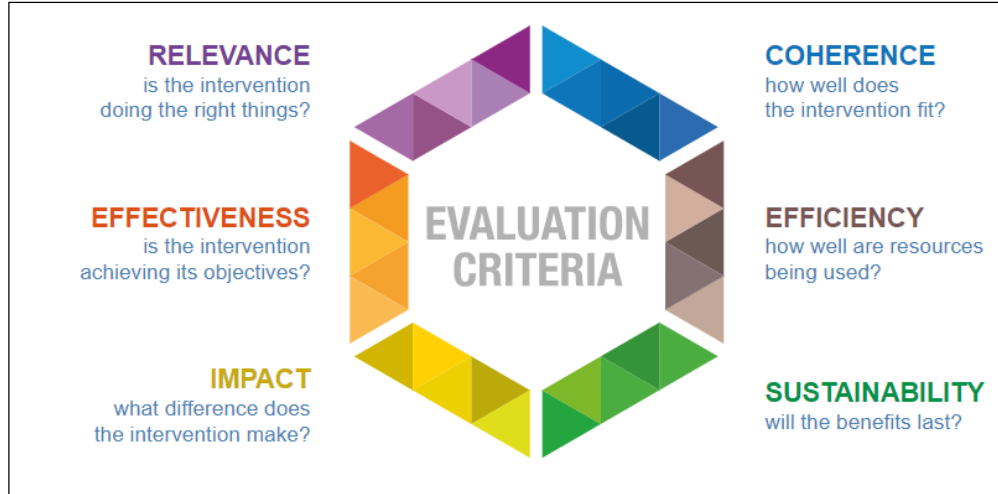


Figure 3: OECD- DAC Framework

1.4.2 Geographical Scope

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

	State	Districts
GAIL CSR	Andhra Pradesh	East Godavari, Tuni Constituency

Table 1: Programme coverage

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 50 (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 40. Duplication of responses were also avoided to ensure opinion of all stakeholders is covered adequately.

1.4.4 Sample Coverage

An actual sample of 40 was covered across the state of Andhra Pradesh. The sample is divided among beneficiaries (students) and headmaster/teachers and community members.

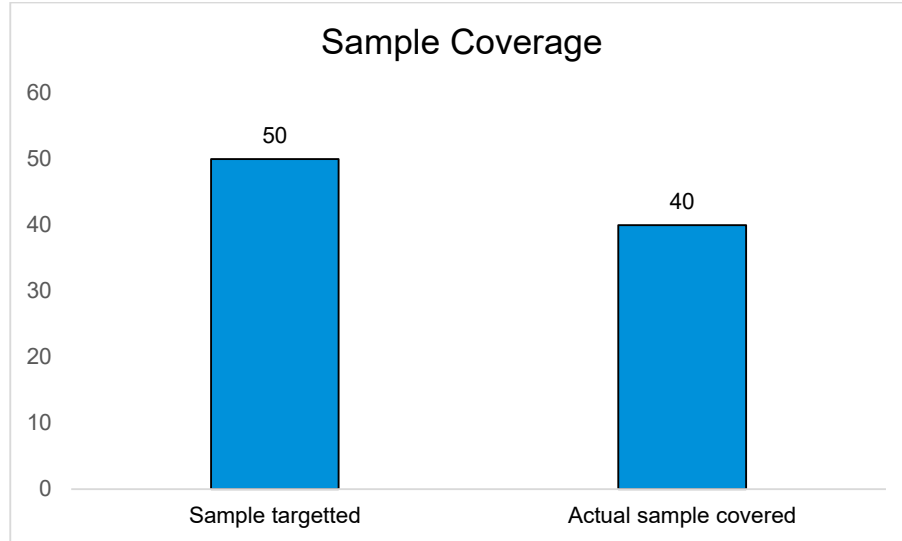


Figure 4: Sample coverage

1.4.5 Data Collection and Analysis

In Andhra Pradesh, KPMG carried out the data collection exercise on - field with assistance from GAIL CSR SPOCS as well as SEEDS SPOCS.

In-depth interviews and focused group discussions were conducted with the relevant stakeholders, with the help of pre-designed questionnaires, through face-to-face interviews for data collection. 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. Institutions and stakeholders taking part in the exercise include:

Project	Type of Stakeholder	Number of stakeholders
Support for development works under CSR in Tuni, East Godavari, Andhra Pradesh:	Students	19
	School administration	16

Supply and erection of RO water plants (FY 19-20 & 20-21)	Community members	5
	GAIL CSR Project SPoC	1
	SEEDS SPOC	1

Table 2: Stakeholder Map

1.4.7 Impact Map

Thematic Area	Location	Project Name	Implementing Agency	Overall Objective	Key Activities	Key Outputs	Key Outcomes	Impact
Health and Sanitation (Under Swachh Bharat component)	East Godavari, Andhra Pradesh	Project 21: Support for development works under CSR in Tuni, East Godavari, Andhra Pradesh: Supply and erection of RO water plants (FY 19-20 & 20-21)	SEEDS	<ul style="list-style-type: none"> To install water purifying plants in identified locations of Andhra Pradesh To provide clean and safe drinking water to school children and general public at Panchayat locations 	<ul style="list-style-type: none"> Provision of RO plants in schools in 44 locations in East Godavari 	<ul style="list-style-type: none"> Construction of RO plant units in 44 schools of East Godavari Region Construction of shed room for setting up the RO plants Awareness generation program in schools 	<ul style="list-style-type: none"> No. of RO plants constructed No. of students who benefited from construction of RO plants No. of awareness sessions conducted 	<ul style="list-style-type: none"> Increase in attendance of students due to access to clean drinking water Increase in awareness of students on importance of drinking water Improvement in access to clean drinking water Improvement in health of students due to access to clean drinking water

Table 3: Stakeholder map



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 the location.

The following scoring matrix was developed to rate the performance of the project:

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%	W2: 40%
	Duplication	20%	
	Adherence: Budget	40%	
Effectiveness	Identification of problem	25%	
	Process driven implementation strategy	25%	
	Qualified implementation team	25%	
	Targeted beneficiaries	25%	
Impact	Access to clean drinking water	25%	
	Reduction in water borne diseases	25%	
	Improved health of students	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.

Safe drinking water and sanitation is a crucial aspect for ensuring the health of communities. Water Contamination and poor sanitation are linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid, and polio. Inadequate water and sanitation services expose individuals to preventable health risks.

The quality of water in all major rivers in Andhra Pradesh fall under 'C' category, the least grade for drinking water sources. None of the rivers in the state is of either 'A' or 'B' category quality status. There is high presence of coliform bacteria in all the rivers indicating mixing of human faeces²³. Given the low quality of water available for the citizens, the government of Andhra Pradesh has approved 239 projects in different urban local bodies (ULBs) across the state to provide protected drinking water and sewage facilities in urban areas²⁴

The global effort to achieve sanitation and water for all by 2030 is extending beyond the household to include institutional settings, such as schools, healthcare facilities and workplaces²⁵. This has been reinforced by global education for all strategies highlighting how water, sanitation and hygiene (WASH) in schools improves access to education and learning outcomes, particularly for girls, by providing a safe, inclusive and equitable learning environment for all²⁶. All children have the right to clean water and basic sanitation, as stated in the Convention on the Rights of a Child. As per the Jal Jeevan Mission data, 99.5% of the government schools in Andhra Pradesh have the provision of tap water supply²⁷ as compared to the national figure which stands at 87.05%.

A need assessment was conducted by SEEDS to understand current drinking water situation in the schools and also identifying and verifying listed schools in Tuni. Further the implementing agency identified the need for setting up RO plant and their LPH capacities in these schools while also understanding the need for

²³ Water quality of major rivers in Andhra poor | Vijayawada News - Times of India (indiatimes.com)

²⁴ Govt. approves 239 Amrut projects in 106 ULBs. Andhra Pradesh (projectstoday.com)

²⁵ Drinking water, sanitation and hygiene in schools: Global baseline report 2018 - UNICEF DATA

²⁶ Ibid

²⁷ JJM Dashboard (ejalshakti.gov.in)

supporting amenities like electricity, water, space etc. This establishes the relevance of the project as the project caters to the needs of the beneficiaries.

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 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 ²⁸	Relevance
GOAL 3	Good Health and Well-Being	3.9 <i>By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</i>	Water safety and quality are fundamental to human development and well-being. Providing access to safe water is one of the most effective instruments in promoting health and reducing poverty ²⁹ .
GOAL 4	Quality Education	4.a.1 <i>Increase the proportion of schools with</i>	So as to promote inclusive and quality education, the programme interventions were aimed at

²⁸ <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

²⁹ Water, sanitation and hygiene (WASH) - India (who.int)

		<p><i>access to: (a) electricity, (b) the Internet for pedagogical purposes, (c) computers for pedagogical purposes, (d) adapted infrastructure and materials for students with disabilities, (e) basic drinking water, (f) single-sex basic sanitation facilities, and (g) basic handwashing facilities (as per the WASH indicator definitions)</i></p>	<p>constructing toilets in government schools and panchayat locations in East Godavari. The aim was to promote access to clean drinking water, and also encourage students to go to school regularly, on the other.</p>
GOAL 6	Clean Water and Sanitation	<p>6.1 <i>By 2030, achieve universal and equitable access to safe and affordable drinking water for all</i></p>	<p>The project aimed to improve access to clean drinking water in government schools and panchayat locations which will reduce their disease burden.</p>

Table 5: Coherence with SDGs

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
<p>Department of Drinking Water and Sanitation</p>	<p>The Department of Drinking Water and Sanitation provides technical and financial assistance to the States to provide safe and adequate drinking water to rural India with focus on service delivery.</p>	<p>The kinds of works/ schemes which are proposed to be taken up under JJM include In-village water supply (PWS) infrastructure for tap water connection to every household; reliable drinking water source development/ augmentation of existing sources; transfer of water (multi-village scheme; where quantity & quality issues are there in the local water sources); technological</p>

		intervention for treatment to make water potable (where water quality is an issue, but quantity is sufficient); retrofitting of completed and ongoing piped water supply schemes to provide FHTC and raise the service level; grey water management and capacity building of various stakeholders and support activities to facilitate the implementation.
Jal Jeevan Mission	The Ministry of Drinking Water and Sanitation (MDWS) was restructured under a new ministerial organogram, to approach the water sector in an integrated manner with the creation of the Ministry of Jal Shakti (meaning “power of water”), bifurcated into two key departments – the Department of Water Resources, River Development and Ganga Rejuvenation, and the Department of Drinking Water and Sanitation.	<p>Jal Jeevan Mission programme implements source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rainwater harvesting.</p> <p>The Jal Jeevan Mission will be based on a community approach to water and will include extensive Information, Education and communication as a key component of the mission.</p>
National Rural Drinking Water Programme	All the States are required to compile data from the State Education Department and Women and Child Development Department regarding the rural schools & anganwadis in existence and the number of them having drinking water facilities and feed this data online.	Its aim is to provide safe drinking water to all rural dwellings, and public schools and safe drinking water to Anganwadis.

Table 6: Coherence with national priorities

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 envisages to make safe drinking water available to school children in select government schools and select panchayat locations of Tuni in East Godavari. As per the Government's Management Information System for the Jal Jeevan Mission, between August 2019 and May 2022, as a result of the programme, coverage of functional household tap connections in rural areas has increased from 17 percent to over 49 percent while tap water has also been provided to almost all schools and pre-schools in the country³⁰. Therefore, to successfully attain these outcomes, the project adopted the following measures:

- I. **Identification of the problem:** SEEDS conducted a base line to understand the current need for drinking water in government schools. Preliminary Meetings were conducted by the SEEDS team with local GAIL India team, school authorities and staff members to collect basic information on the need and status of drinking water supply in government schools and areas of Tuni Constituency. Further, the project employed a process-driven implementation strategy that included coordinating with the local stakeholders to ensure a context-specific initiative, standardised activities with a set timeframe to assure quality, and pre-determined KPIs to ensure consistency.
- I. **Qualified implementation team:** The implementing agency deployed a qualified team with previous expertise in managing similar tasks.
- II. **Targeted beneficiary mobilization:** The core of the project is to make available safe drinking water through provision of RO plants to school children and community members. For effective project implementation, the implementing agency has a mobilization process in place. A mobilization team on behalf of the implementing agency and GAIL India Limited visited panchayats and government schools of East Godavari for project implementation.

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

³⁰ Clean drinking water | UNICEF India



criterion attempts to determine whether the programme was completed on schedule and within budget.

I. Timeliness of delivery or implementation of project interventions

The programme was implemented within the given time period by SEEDS with support from GAIL CSR team in the target district.

II. Cost efficiency of project activities

Interaction with the GAIL CSR and SEEDS team members also revealed that there was no budget overflow and that all the activities were successfully carried out within the allotted budget.

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, it was recognized that the problem access to safe drinking water in government schools and public places is persistent. The team conducted field visits and engaged in stakeholder interactions inclusive of local administration and education institutions.

1.6.5 Sustainability of Intervention

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

The project was successfully completed by the implementing agency i.e. supplying, installing and commissioning RO plants in 44 location including in government schools and panchayat locations including building cost, water pump and electrification. After the successful installation, the RO plants were handed over to school authorities for government schools as well as panchayats under the responsibility of headmaster and panchayat secretary respectively. Further, the SEEDs team has done an adept market analysis and selected the plants with 1 year warranty at least.

1.6.6 Branding

Adequate branding and visibility of GAIL (India) Ltd was ensured at all intervention sites. All the respondents were aware of the RO plants being a CSR intervention by GAIL.



Figure 5: RO Water plant with GAIL logo

1.6.7 Impact of Intervention

Impact has been measured in terms of the futuristic vision to address the issue and significant changes observed.

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.

The impact assessment study covered 40 respondents out of which around 13% were females. The students interviewed in the study are from different classes i.e., IInd, Vth, VIIth and XIth class. Apart from the students, the respondents were also teachers and community members from village Hansavaram in East Godavari.

a. Improved accessibility to clean drinking water

The intervention has improved the access of students as well as school staff to an improved water source. The World Health Organisation (WHO) defines "improved water source" under the *Global Nutrition Monitoring Framework* as a source protected from outside contamination and fecal matter in particular³¹.

³¹ www.who.int



RO water plants are increasingly seen as an improved water source for government schools and the community members due to their ability to remove impurities and contaminants from water, making it safe for consumption. Prior to the installation of RO plants, the water source was from tap water in the government schools surveyed and community members probed.

All the teachers highlighted that earlier there was unavailability of fresh and pure drinking water but post GAIL intervention, they have access to clean drinking water through RO plants. They also elucidated that the students used the RO plant on daily basis for their drinking water need in the school.

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 consumption³². This is especially important for areas such as the district of East Godavari where the groundwater is contaminated sewage pollution³³.

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.

b. Process-driven maintenance mechanism

Regular maintenance of RO water plants is necessary because it-

- Ensures safe and pure water supply
- Increases efficiency and lifespan of the plant
- Prevents costly breakdowns and repairs
- Maintains consistent water quality
- Helps to avoid health hazards.

³² "Reverse Osmosis Water Filtration in Healthcare Settings." *Water Quality Products*, vol. 12, no. 11, 2008, pp. 58-60.

³³ [\(PDF\) Water Quality Assessment of the Godavari River \(researchgate.net\)](#)



While most of the respondents at school reported that the plants were functional and hence are regularly maintained and repaired by the school management, a few also were unaware of this process and stated that the plant self-repairs itself with a technology. The community members at gram panchayat reported that RO water plant is installed but the same is not being regularly maintained by the Panchayat.

c. Improved Health of students

When children don't have access to clean water, it negatively impacts their health, nutrition, education, and every other aspect of their lives³⁴.

The availability of water is not enough to keep children healthy: Water must also be safe, attainable, and affordable³⁵. This means it must come from a reliable source like a well, a tap or a hand-pump; free from faecal and chemical contamination; readily available for at least 12 hours a day; and located on the premises of a child's household or within reasonable reach³⁶.

According to data from the World Health Organization (WHO), in 2017, there were approximately 1.5 million reported cases of cholera in India³⁷. In addition, the National Health Mission reported that in 2019 there were over 200,000 reported cases of typhoid in India. The lack of access to clean water and proper sanitation facilities in rural areas of India is a significant contributor to the high incidence of water-borne diseases.

A study by the Ministry of Drinking Water and Sanitation found that in 2017, only 40% of rural households in India had access to a toilet and only 28% had access to safe drinking water³⁸. Efforts to improve water and sanitation access and reduce the incidence of water-borne diseases in rural India include government initiatives such as the Swachh Bharat Abhiyan and the National Rural Drinking Water Program, as well as partnerships with non-government organizations.

All of the surveyed students highlighted that RO plants help in reduction of waterborne diseases such as diarrhea, cholera, typhoid, hepatitis-A etc. and promotes good health which highlights the positive nature of change brought about by the intervention.

³⁴ Water | UNICEF

³⁵ Ibid

³⁶ Ibid

³⁷ World Health Organization (WHO). (2017). Cholera in India.

³⁸ Ministry of Drinking Water and Sanitation. (2017). Key Findings of the Drinking Water, Sanitation and Hygiene Baseline Survey 2016-17.

d. Increased attendance of students



Figure 6: Students engaged in focused group discussion in government school of East Godavari

Safe WASH is not only a prerequisite to health, but contributes to livelihoods, school attendance and dignity and helps to create resilient communities living in healthy environments³⁹. 68% of the students agreed that their frequency of coming to school has increased post-installation of RO plant. Further, they mentioned access to clean and fresh drinking water as one of their reasons to attend school.

e. Positive community perception:

When asked to rate the intervention with 1 being the lowest score and 5 being the highest on a scale of 1-5, 100% of the community members ranked the intervention as 4 while on an average all the students ranked intervention as 4 too. This implies that the intervention was thoughtfully designed by GAIL (India) Ltd and catered to the needs of the beneficiaries.

1.7 Case Study

Cleaner Water Better Health

When Rishi (name changed) found out that his school has a new RO plant installed, he was at ease that he would not have to carry water from home. Before the plant was installed, Rishi drank the limited water he used to get from home but now he has access to unlimited pure water source. He highlighted that earlier he used to drink from his bottle as well as from the tap water present at school especially after his sports class.

³⁹ [Water, sanitation and hygiene \(WASH\) \(who.int\)](https://www.who.int)



He has fallen ill twice during his academic year which has made him cautious about the source of drinking water. He was well aware of the positive effects of RO plants such that he highlighted the reduced frequency of water borne diseases that are caused by contaminated water sources. He also mentioned that his parents are also satisfied with this addition in the school. Rishi is now excited to participate in sports events and classes without having to stress about his intake of water.

1.8 Overall rating of the project

The scoring matrix was used to evaluate and score performance of the project across district of Andhra Pradesh. The following table provides the district-wise rating across the defined parameters:

Location	Relevance	Coherence	Efficiency	Effectiveness	Impact	Sustainability	Branding	Total Score
Andhra Pradesh	100%	100%	100%	100%	85%	85%	100%	98%

Table 7: Overall scoring of the programme

The GAIL project implemented in East Godavari scored an average of 98%. 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. Sustainability of the project is at 75% since the maintenance and repair of the RO plants need a proper process and responsibility in place which has been reported as a need by community members.

The total score of the project is 96% due to which this project can be rated as **"Highly Impactful"** in nature.



Figure 7: RO Water plant with GAIL logo in government school of East Godavari

1.9 Conclusion and Way Forward

The World Health Organization recognises India as one of the top countries with high incidence of water-borne diseases⁴⁰. Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhoea, dysentery, and so on. Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks.

The provision of water at schools is one of the 'highly effective practices in increasing access and learning outcomes'⁴¹. In addition to the necessity of water to maintain personal and environmental hygiene, reducing student dehydration in schools has been associated with improved cognitive abilities⁴². Globally, in 2016, 69% of schools had an improved source of drinking water with water available and were therefore classified as providing a basic drinking water service⁴³.

For the world to attain universal coverage with basic drinking water services by 2030, historical rates of progress would need to be doubled. Rates would have to treble to achieve universally safe managed services. Climate change, growing water shortages, demographic shifts, and groundwater contamination pose growing threats in meeting universal coverage. The situation is especially dire in

⁴⁰ <https://www.who.int/news-room/fact-sheets/detail/drinking-water>

⁴¹ [Drinking water, sanitation and hygiene in schools: Global baseline report 2018 - UNICEF DATA](#)

⁴² Ibid

⁴³ Ibid



countries like India with a predominantly rural population that lacks access to clean drinking water.

This calls for collaboration and convergence between public and private entities to realize universal coverage of drinking water in a timely manner. CSR provides a robust platform for such confluences. In this regard, the intervention by GAIL (India) Ltd to provide RO plant at 44 government schools and panchayat location in East Godavari district of Andhra Pradesh is a significant step in this direction. The intervention was lauded by beneficiaries and stakeholders alike for its strategic planning and systematic implementation. However, to further maximize the impact and enhance the project outcomes, the following recommendations are suggested:

I. Promotion of WASH in schools:

Combining components of WASH programme in schools like building toilet, drinking facilities, inclusion of WASH curriculum in school, which covers basics of handwashing, personal hygiene and more is an imperative step towards holistic development of children. These are necessary to produce a healthy school environment and to develop or support appropriate health and hygiene behaviours⁴⁴.

Highlighting the health outcomes of inclusion of proper WASH arrangements in schools, a study carried out in Kerala in collaboration with UNICEF revealed that after WASH programme intervention in schools, regularity in attendance increased with children no longer feeling the need to go home in case they needed to defecate⁴⁵. Studies also show that WASH in schools helps in curbing incidences of diarrhoea, soil-transmitted helminths, acute respiratory infections, and other WASH-related diseases in children⁴⁶.

II. Organizing awareness sessions in schools

Changing behaviours by itself, is a mammoth task and it necessitates as much investment and time as building infrastructure. Hence organizing awareness sessions in schools to educate children on importance of safe drinking water and benefits of drinking RO water is important. The sessions should also cover the impending danger of water borne diseases that can grapple children due to consumption from a polluted source of water. Awareness sessions play an important role in changing behaviors, as it is the first step towards forming the base of knowledge and translating it into behaviour change.

III. Convergence with local administration: One of the core objectives of the Jal Jeevan Mission is to provide safe and piped drinking water to every rural household in India by 2024. Achieving this target single-

⁴⁴ [#SwasthBharat: How WASH \(Water, Sanitation & Hygiene\) Programmes In Schools Are Improving Lives Of Children, One Lesson At A Time | Hygiene and Sanitation \(ndtv.com\)](#)

⁴⁵ Ibid

⁴⁶ Ibid



handedly may be a gargantuan task for the government. Therefore, the participation of private entities, through their CSR interventions, can provide much-needed support to the government in meeting the ambitious target. Some of the major reasons for fostering private partnerships in implementing government schemes are enlisted below:

- a. **Increased Investment:** Private sector involvement can bring in additional financial resources and expertise, increasing investment in the mission.
- b. **Improved Efficiency:** Private companies bring in technical know-how and efficient management practices, leading to improved water supply systems.
- c. **Encourages Innovation:** Competition among private companies can drive innovation and lead to the development of new and improved water supply solutions.
- d. **Increases Access:** Private sector involvement can help expand access to water supply in underserved areas, especially in rural areas.
- e. **Supports Sustainability:** Private sector involvement can help ensure the sustainability of such WASH initiatives by promoting cost recovery mechanisms and long-term maintenance planning. This further helps ensure sustainable access to safe drinking water for all.

Therefore, it is suggested that GAIL explore synergies with the local administration to provide such RO water systems for households under the mission.

IV. Community Engagement: Community sensitization is a key factor in ensuring sustainable access to clean drinking water, as it helps create a supportive environment for change and long-term behavior change. This is because it is ultimately the people that decide to use a particular source of water over the other. Firstly, it is critical to educate the community on the importance of clean water and the dangers of contaminated water. Moreover, sensitization promotes a sense of ownership and responsibility among community members to protect and maintain water sources like the RO plants. Lastly, by educating communities on the link between hygiene practices and water quality, sensitization can improve hygiene behaviors and reduce contamination.

V. 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. This will not only ensure continued momentum for the purpose, but also lead to newer avenues for innovation and community participation. The Swachh Bharat Mission through the Swachh Vidyalaya Abhiyan in schools changed the narrative and brought attention to sanitation, drinking water and handwashing in educational institutions, and incorporated hygiene education into the curriculum. Thereby, collaborating and converging with the government stakeholders and aligning to the appropriate schemes can create a ripple effect as well.



Thank you



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