



GAIL (India) Limited

**Impact Assessment Report on Support
under Swachh Bharat missions for
Swachtha equipment like tipper, dust bins
in Guna, Madhya Pradesh' (FY 19-20)**



Disclaimer and Notice to Reader

1. This report has been prepared by KPMG Assurance and Consulting Services LLP (“KPMG” or “we”) exclusively for GAIL (India) Limited (“Client”) in accordance with the terms of the Request for Quotation dated 18.08.2022 issued by GAIL (India) Limited , our quotation for services dated 07.09.2022, the Fax of Acceptance issued by GAIL (India) Limited on 20.09.2022, KPMG's acknowledgement of Fax of Acceptance on 23.09.2022, the Letter of Acceptance issued to KPMG dated 27.09.2022 , and KPMG's Letter of Acceptance dated 11.10.2022 . The performance of KPMG's services and the report issued to the Client are based on and subject to the terms of the Contract
2. This report is for the use of management only and not for use by any other party, in whole or in part, without our prior written consent.
3. This report sets forth our views based on the completeness and accuracy of the facts stated to KPMG and any assumptions that were included. If any of the facts and assumptions is not complete or accurate, it is imperative that we be informed accordingly, as the inaccuracy or incompleteness thereof could have a material effect on our conclusions.
4. While performing the work, we have assumed the authenticity of all documents or information referred or provided. We have not independently verified the correctness or authenticity of the same.
5. We have not performed an audit and do not express an opinion or any other form of assurance. Further, comments in our report are not intended, nor should they be interpreted to be legal advice or opinion.
6. In accordance with its policy, KPMG advises that neither it nor any partner, director or employee undertakes any responsibility arising in any way whatsoever, to any person other than GAIL (India) Limited in respect of the matters dealt with in this report, including any errors or omissions therein, arising through negligence or otherwise, howsoever caused.
7. In connection with our report or any part thereof, KPMG does not owe duty of care (whether in contract or in tort or under statute or otherwise) to any person or party to whom the report is circulated to and KPMG shall not be liable to any party who uses or relies on this report. KPMG thus disclaims all responsibility or liability for any costs, damages, losses, liabilities, expenses incurred by such third party arising out of or in connection with the report or any part thereof.
8. While information obtained from the public domain or external sources has not been verified for authenticity, accuracy or completeness, we have obtained information, as far as possible, from sources generally considered to be reliable. We assume no responsibility for such information.
9. Our report may make reference to ‘KPMG Analysis’; this indicates only that we have (where specified) undertaken certain analytical activities on the underlying data to arrive at the information presented; we do not accept responsibility for the veracity of the underlying data.
10. By reading our report the reader of the report shall be deemed to have accepted the terms mentioned hereinabove.



Table of 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	6
1.3	About the Implementing Agency	9
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	12
1.4.5	Data Collection and Analysis	13
1.4.6	Stakeholder Map	13
1.4.7	Impact Map	14
1.5	Scoring Matrix	15
1.6	Impact Assessment	16
1.6.1	Relevance of Intervention	16
1.6.2	Coherence of Intervention	16
1.6.3	Effectiveness of Intervention	19
1.6.4	Efficiency of Intervention	19
1.6.5	Sustainability of Intervention	20
1.6.6	Branding	21
1.6.7	Impact of Intervention	21
1.7	Overall rating of the project	28
1.8	Conclusion and Way Forward	29



1.1 Executive Summary

Since gaining independence, India has expedited its journey to being a worldwide leader in both thought and action. With one-sixth of the world's population, India has the ability to offer the pivotal traction required to achieve the 2030 Agenda. India's alignment with the national development agenda, as shown by the motto "Sabka Saath Sabka Vikas" (common efforts for inclusive growth), underlines the country's commitment to the SDGs (SDGs).

The country has effectively lifted more than 271 million people out of multidimensional poverty through economic growth and empowerment.¹ Housing, nutrition, child health, education, sanitation, drinking water, and power inequalities have all reduced due to improved access.² India achieved 100 percent rural sanitation and a significant reduction in stunting among children and maternal mortality rates³ through a cross-country initiative launched by the Clean India Campaign and the National Nutrition Mission.

On the national level, there is still a substantial amount of work to be done in multiple sectors. In order to actualize its immense economic potential and strive toward inclusive development, India must accelerate and maintain its upward trend on key social development metrics.

India's Solid Waste Management (SWM) systems have mostly remained unchanged despite significant advancements in the social, economic, and environmental spheres. In a country like India, a number of factors, including the government policy, a country's legal framework, financial resources, and social and cultural perspectives, all play a key part in maintaining an effective waste management system.⁴

The Swachh Bharat Abhiyan was launched in 2014 to address the country's substantial WASH sector components that require attention for improvement. The objectives of the initiative were to increase public awareness and enhance the nation's infrastructure in order to assist the growth of sustainable sanitation, hygiene, and waste management systems. One of the key goals of the programme was to ensure that there was appropriate waste disposal infrastructure in the country. In order to maintain clean and healthy communities, collective education of the community was prioritized because inadequate waste disposal frequently has the biggest impact in metropolitan areas.⁵

Looking at the programme through a state lens, Madhya Pradesh has performed admirably in almost every aspect of the Swachh Bharat Mission. The state placed third in the category of "Best Performing State in >100 ULBs" in the Swachh Survekshan Survey of 2021.⁶

Although generally performing well, the state nonetheless has shortcomings in certain municipalities' fundamental waste collecting infrastructure and practices. One of the main

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

² Ibid.

³ Voluntary National Review: 2020. [India.: Sustainable Development Knowledge Platform \(un.org\)](https://www.un.org/sustainabledevelopment/knowledgeplatform/)

⁴ 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

⁵ 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

⁶ <https://www.mppcb.mp.gov.in/proc/Tech/Annual-Report-msw2021-22.pdf>



objectives of SBM is the collection of waste that has been segregated at the source, yet these districts lack the infrastructure to achieve this. This factor has led to uneven development of the waste collecting system throughout the districts.

Being a socially conscious public sector organisation, GAIL (India) Limited understands the importance of tackling the aforementioned problem. In order to support the municipal corporations of the target districts by providing Swacchta equipment like tippers for improving the waste collection and waste segregation scenario of the selected areas, GAIL worked with the Confederation of Women Entrepreneurs (COWE) in accordance with the thematic areas as mentioned in Schedule VII of the Companies Act, 2013.

By providing waste collection tippers to the Municipal Corporations of the selected districts, the programme was designed to assist in the implementation of the Swachh Bharat Abhiyan. GAIL CSR responded to this need by contributing financially to the problem and helping in the provision of a sufficient number of tippers for the untapped areas, thus widening the reach of the initiative and helping to improve the general waste collection conditions of the districts. Due to the increased availability of waste collection tippers, all stakeholders recognized that the initiative aided in ensuring door-to-door waste collection. They also stated that the project was essential in promoting waste segregation at the source among the communities in the target districts.

GAIL (India) Limited enlisted KPMG to carry out an impact assessment study in order to assess the project's impact and comprehend the perception of the stakeholders. To understand the goal and scope of the project, stakeholder consultations and a review of the team's documents and data were conducted. Following a desk review, the programme team helped identify and finalise key performance indicators. The OECD-DAC (Organisation for Economic Co-operation and Development- Development Assistance Committee) framework was utilised for developing research tools (questionnaires for qualitative surveys) and evaluating the impact created for this study.



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

People's consuming habits have altered dramatically as an outcome of the industrial revolution and economic progress.⁷ The rate at which the world is rapidly expanding into urbanization at the same time is unparalleled. Small to medium-sized cities in low-

⁷ Gour A. Singh S. (2022 October 27) *Solid Waste Management in India: A State-of-the-Art Review*. Environmental Engineering Research 2023. Vol 28(4).



income countries account for the majority of such urbanisation.⁸ However, technology has also made solid waste management extremely complicated at the same time. In consequence of this modified way of life, the proportion of inorganic components in wastes has increased dramatically, adversely affecting waste management and making it a contemporary global issue.⁹ Such cities are now faced with the difficulty of managing waste in a way that is both ecologically and socially sustainable.

The generation of solid waste is a natural byproduct of human activity, and how it is treated has a substantial effect on the health of the local community and environment.¹⁰ Globally, as plastic and electronic consumer products proliferate, people are disposing increasing amounts of waste, and its structure is more complex than ever before.¹¹ This emphasizes the need for sustainable disposal and management of waste. Coming to the characteristics of local waste, they vary with cultural, meteorological, and socioeconomic aspects, as well as institutional capabilities. This reason explains why waste governance is becoming more regionalized and institutionalized on a global scale. It has been observed that unsustainable waste management can be a hazard to both the people and the environment of the country. As cities are deemed accountable for delivering public goods to their population, the onus of providing excellent waste management services has frequently fallen on cities¹².

Even though almost all countries in the world are engaged in a resolute struggle, they have yet to come up with a rational and sustainable waste management system. Nevertheless, this problem has been adequately tackled in a few industrialised nations, including Germany, Italy, Canada, and Australia. However, the rest of the world, which includes many developing and poor countries, is still developing its fundamental infrastructure, so there is still a long way to go toward sustainable waste management.¹³

In the context of India, the growth of urban areas, shifting consumer habits, and industrialization leading to a rise in municipal waste generation are harming the environment and endangering sustainable development.¹⁴ India is a varied nation with many different religious groups, cultures, and customs, making it more challenging to achieve sustainable development as the country experiences accelerated population expansion and improvements in living conditions.¹⁵

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.

⁸ Cohen B. (2004) *Urban growth in developing countries: a review of current trends and a caution regarding existing forecasts*. World Dev. 32(1):23–51

⁹ Gour A. Singh S. (2022 October 27) *Solid Waste Management in India: A State-of-the-Art Review*. Environmental Engineering Research 2023. Vol 28(4).

¹⁰ Vergara S. & Tchobanoglous G. (2012) *Municipal Solid Waste and the Environment: A Global Perspective*. Annual Review of Environment and Resources. Vol. 37:277–309

¹¹ Ibid.

¹² Ibid.

¹³ 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.

¹⁴ 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.

¹⁵ Ibid.



Today's world requires a proper solid waste management system more than ever to combat climate change.¹⁶

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.¹⁷ 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.¹⁸

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.¹⁹

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 metropolitan areas, collective education of the population was prioritized in order to maintain clean and healthy communities.

The participation of the states in the decision-making process about the approach and strategy to be used in each of them is one of the SBA's key strengths. It was duly recognised in the programme that in order to achieve the desired results, the states itself are best positioned to choose the type of approach, technique, and technology that best meets their socioeconomic, geographic, cultural, linguistic, and technological settings.²⁰

When it comes to the state of Madhya Pradesh, it has done well in practically all facets of the Swachh Bharat Mission. In the Swachh Survekshan Survey of 2021, the state came in third under the category of "Best Performing State in >100 ULBs".²¹

The last five years have seen Indore routinely being recognised as the country's cleanest city, a testament to the state's impressive accomplishments. In each of the previous three Swachh Survekshan surveys, more than 20 towns from the state continuously ranked among the top 100 cleanest cities in the country. Nine cities have received the

¹⁶ 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.

¹⁷ 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>

¹⁸ 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.

¹⁹ 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

²⁰ Jangra B. Majra J. & Singh M. (2017 July 03) *Swachh Bharat Abhiyan (Clean India Mission): SWOT Analysis*. International Journal of Community Medicine and Public Health. Vol 12, 3285-3290.

²¹ <https://www.mppcb.mp.gov.in/proc/Tech/Annual-Report-msw2021-22.pdf>



certification of "3 Star Garbage Free City," whilst 17 cities have received the certification of "1 Star Garbage Free City".²²

However, although performing well generally, the state has gaps in basic waste collection facilities and processes in several municipalities. These places lack the infrastructure to ensure the collection of waste that has been segregated at the source, which is one of the primary goals of SBM. As a result of this aspect, the waste collection system has developed unevenly across the districts. GAIL acknowledged this issue and tried to equip the identified districts with tippers. The tippers are waste collecting vehicles that have partitioned areas in the collecting bin to help in collecting segregated dry and wet waste. This project was initiated to address the detected gaps and boost the overall impact of SBM and its benefits to the districts that had been excluded from the goal of 100% coverage.

1.3 About the Implementing Agency

Under the assistance and direction of the Government, Confederation of Women Entrepreneurs (COWE) was founded on November 22nd, 2004, in Hyderabad, Telangana, with six successful first-generation women entrepreneurs serving as the Directors. COWE was registered as a Not-for-Profit Organization under Section 25 of the Companies Act and complies with all applicable MOA, AOA, and Bye Laws. With members from Andhra Pradesh, Delhi, Gujarat, Karnataka, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, and West Bengal, COWE has emerged as a genuine national association.²³

The organisation's mission is to encourage and help aspiring women entrepreneurs to thrive as independent businesswomen in both the political and economic spheres of influence.²⁴ In order to empower women entrepreneurs in realizing their full economic potential, a few of COWE's primary priorities include the establishment of centres of excellence, skill development, infrastructure provision, and resource access.²⁵ In order to empower women via entrepreneurship, COWE aims to provide pertinent training, counselling, and guidance to aid them in improving their abilities. They also work to continuously improve existing member facilities through knowledge exchange and advocacy.²⁶

Thousands of women have benefited from more than 200 programmes undertaken by COWE since its establishment, and its training programmes have influenced the lives of over 10,000 women. Today, COWE is one of the prominent organisations for women entrepreneurs that strives to foster the spirit of women empowerment and entrepreneurship.²⁷

As their primary objective, COWE offers entrepreneurial development programmes, entrepreneurial skills development programmes, seminars, and webinars. These

²² Ibid.

²³ <https://co-we.com/about-us.php#>

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

²⁷ <https://co-we.com/about-us.php#>



activities help women entrepreneurs in learning new skills, hone their existing expertise, learn about entrepreneurship, and help them flourish in their varied enterprises.

In 17 years, it has mentored more than 60,000 women through the Entrepreneurship Development Programmes (EDPs).²⁸ Various EDPs are organised by COWE to encourage women to start their own businesses and to empower them with the knowledge and skills critical to sustainably run a business. EDPs offer businesswomen the direction they need, and as all the knowledge they need is in one place, it is simpler for women to comprehend entrepreneurship and empower them to launch their own business. Social entrepreneurship in the waste management industry is one of the key areas of focus of the programmes.

This CSR project by GAIL aims to assist in the execution of the Swachh Bharat Abhiyan in Madhya Pradesh by supplying waste collecting vehicles that help in the separation of wet and dry waste at the source. Therefore, COWE was chosen as the implementing agency for this CSR project for GAIL due to their affiliations with female entrepreneurs working in the waste management sector as well as their own programme experience in the area.

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:

²⁸ Ibid.

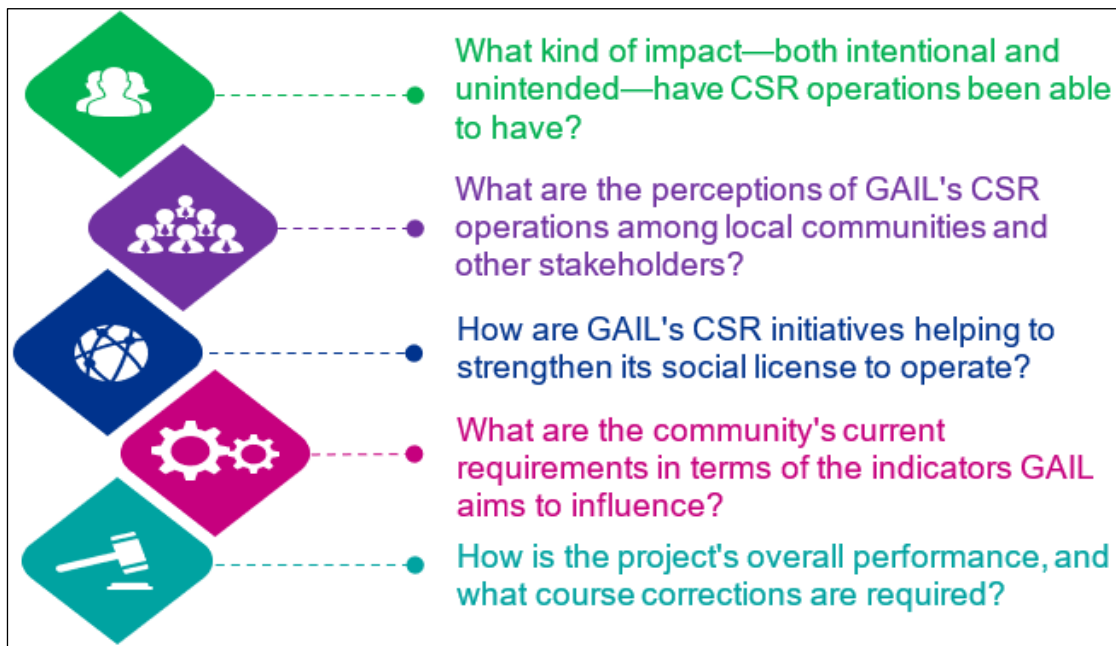


Figure 1: Research questions

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 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 evaluation's contribution to sustainable development (OECD, 2020).

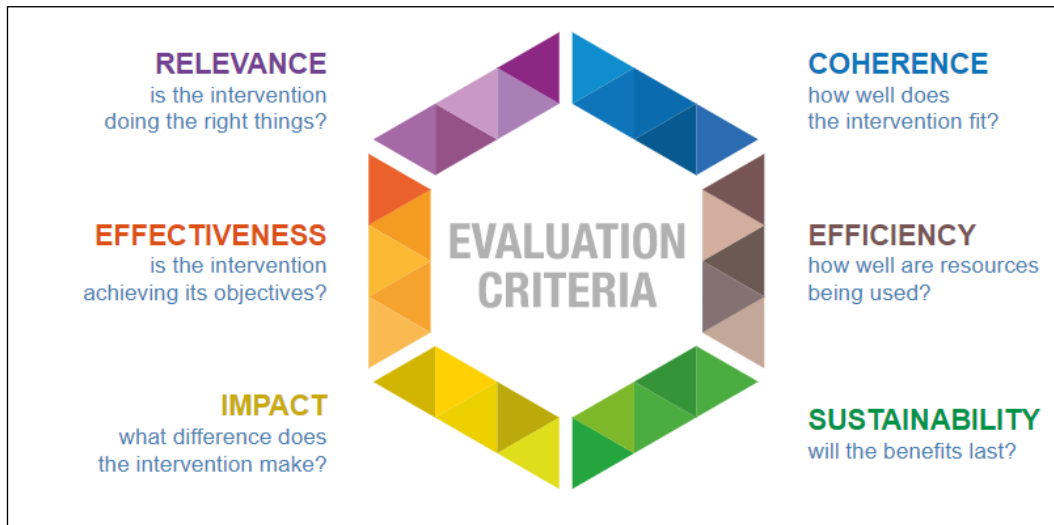


Figure 2: OECD-DAC Evaluation Criteria

1.4.2 Geographical Scope

The impact assessment for this project covered 1 state and 5 districts.

	State	Districts
Under GAIL's CSR Initiative	Madhya Pradesh	Guna Shivpuri Ashoknagar Raghogarh Indore

Table 1: Geographical Scope

1.4.3 Sampling Strategy

The sample size for this study has been calculated using purposive sampling methodology. This was done keeping in mind the collection of qualitative data from diverse stakeholders. The sample size covered for the study was 5, due to the unavailability of beneficiaries at the time of the data collection. Duplication of responses were also avoided to ensure opinion of all stakeholders is covered adequately.

1.4.4 Sample Coverage

An actual sample of 5 stakeholders were interviewed across the five municipalities in the district of Guna, Madhya Pradesh. The sample constitutes of members of the target municipal corporations and members of the implementing agency team.



1.4.5 Data Collection and Analysis

In Madhya Pradesh, KPMG carried out the data collection exercise virtually with assistance from GAIL CSR SPOCS.

In-depth interviews were conducted with the relevant stakeholders, with the help of pre-designed questionnaires, through telephonic means and Microsoft Teams 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 under Swachh Bharat missions for Swachtha equipment like tipper, dust bins in Guna, Madhya Pradesh' (FY 19-20)	GAIL CSR Project SPoC	1
	Implementation agency	2
	Municipal Corporation members	3*

**Out of the 5 districts, stakeholder interaction could be conducted in only 3 districts due to unavailability of the concerned Municipal SPOC in the 4th district. Additionally, beneficiary interaction could not be conducted for this project due to difficulty in mobilizing beneficiaries for virtual interaction as communicated by the implementing agency*

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]	Guna, Madhya Pradesh	Support under Swachh Bharat missions for Swachtha equipment like tipper, dust bins in Guna, Madhya Pradesh' (FY 19-20)	Confederation of women entrepreneurs (COWE)	To enhance the cleanliness and extending support towards Swachh Bharat Mission.	<ul style="list-style-type: none"> Provision of garbage disposal vehicles Handing-over of all tippers to concerned Municipal Corporation of respective districts of MP 	<ul style="list-style-type: none"> No. of garbage disposal vehicles provided. Frequency of waste collection No. of drivers employed for mobility vehicles 	<ul style="list-style-type: none"> Improvement in waste disposal through the vehicles Increase in frequency of waste collection Increase in geographical coverage for waste collection Improved health and hygiene practices in the community 	<ul style="list-style-type: none"> Improvement in sanitation and hygiene of the area Improvement in waste collection process in the target districts Improvement in awareness about waste segregation in the community Contribution to Swachh Bharat Mission

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%	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	% respondents identifying the relevance of the project in aiding waste segregation at source in the districts	25%	
	% respondents identifying the role of the project in promoting door-to-door waste collection in the districts	25%	
	% respondents identifying the role of the project in promoting the holistic improvement in the socio-economic well-being of waste collectors /manual scavengers	25%	
	% respondents identifying the role of the project in awareness creation regarding waste segregation	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.

Despite typically functioning well, the state of Madhya Pradesh has faced challenges related to the fundamental infrastructure and processes of waste collection in a number of municipalities. According to the Annual Report on Implementation of Solid Waste Management Rules, 2016 (2020-21), the total amount of solid waste produced in the state of Madhya Pradesh was 8022.5 tonnes per day (TPD), however only 7235.5 TPD was collected, of which only 6472 TPD was treated.²⁹ The report also highlights that among the 383 Urban Local Bodies (ULBs) in the state, only 276 ULBs practice 100% segregation of waste.³⁰ The infrastructure necessary to ensure the collection of waste that has been segregated at the source is also lacking in these locations. This contributed to an unequal development across the different parts of the target districts, as some places possessed the infrastructure needed for efficient waste collection while others did not.

The project focused on aiding the implementation of Swachh Bharat Abhiyan by providing waste collection tippers to the Municipal Corporations of the target districts. All stakeholders deemed this project as relevant in their district as it helped in ensuring door-to-door collection of waste due to increased availability of waste collection tippers. The stakeholders agreed that there was a need for provision of the Tippers as the earlier available vehicles were less in number to ensure effective waste collection. They also highlighted that the project has played a significant role in promoting waste segregation at source among the communities in the target districts.

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.

²⁹ Annual Report 2020-21 on Implementation of Solid Waste Management Rules, 2016. https://cpcb.nic.in/uploads/MSW/MSW_AnnualReport_2020-21.pdf

³⁰ Ibid.

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 ³¹	Relevance
GOAL 3	Good Health and Well-Being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	The project's aim was to improve the practice of door-to-door waste collection and to enable reduced waste disposal in public locations. This would result in an improvement in the districts' overall health and well-being and a reduction in soil, water and air pollution which would in turn have a positive impact on the health of community members
GOAL 6	Clean Water and Sanitation	6.b Support and strengthen the participation of local communities in improving water and sanitation management	The project aimed to improve waste collection by enabling segregation of wet and dry waste at the household level.
GOAL 8	Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including	The project aimed at increasing the employment opportunities for people in the target districts as drivers for the waste collection vehicles. In addition, the project aimed to assist the manual scavengers in waste disposal and management by ensuring door – to – door waste collection and ease of segregation.

³¹ <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>



		<i>through access to financial services</i>	
--	--	---------------------------------------------	--

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
Swachh Bharat Mission	<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 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.³²</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>

Table 6: Coherence with national priorities

³² <https://swachhbharatmission.gov.in/sbmcms/index.htm>



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 improve the process of waste collection in the target districts and aid the implementation of Swachh Bharat Abhiyan. Therefore, to successfully attain these outcomes, the project adopted the following measures:

- I. **Identification of the problem:** The project's main objective was to solve the issue of shortfall in coverage by waste collection tippers in the target districts. To be able to deliver the best results for the communities and stakeholders involved, the issue was identified, and the project was effectively developed.
- 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-** The implementing agency deployed a qualified team with previous expertise managing similar tasks. The agency monitored the procurement and delivery process of the tipper dustbins. This contributed to the preservation of implementation quality and provided prompt assistance to the municipal corporations.

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 target districts 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 COWE with support from GAIL CSR team in the target districts.
- II. **Cost efficiency of project activities**
Interaction with the GAIL CSR and COWE team members also revealed that there was no budget overflow and that all the activities were successfully carried out within the allotted budget. An addendum was signed between these two parties during the intervention to revise the numbers of tipper dustbins to be



procured and delivered. The budget was also adjusted during the process. 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, it was discovered that the districts already used tipper dustbins, but they were either old or insufficient to cover all locations in terms of door-to-door waste collection. As a result, this project contributed to expanding the reach of the intervention and avoiding duplication or overlap of project activities in the target districts.

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.

At delivery, the tippers were handed over to the municipality, accompanied with a year of maintenance assistance. This demonstrates that the project had an effective exit strategy to close the project efficiently while transferring ownership of the tippers to the individuals who will be utilizing them on a regular basis.

The project increased municipal corporations' capability for door-to-door waste collection and attempted to reduce the amount of waste disposed in public spaces, which affected the target districts' overall health and well-being conditions. The project also raised community awareness about waste segregation at the source and hygienic waste disposal methods. Thus, improving the districts' facilities helped to sustain the impact by allowing them to continue with an improved waste collection approach.

In addition, the project attempted to improve the working conditions of manual scavengers. Since the initiative helped in the segregation of wet and dry waste at the source itself, they did not have to undergo the procedure of manual segregation and disposal of waste. This indirectly reduced their workload and improved their working circumstances because they did not have to come into direct contact with the disposed waste, which had a positive impact on their overall health and well-being.

1.6.6 Branding



Figure 3: GAIL branding on tipper dustbin vehicles in Guna, MP

The tipper dustbin vehicles showcase adequate branding and visibility of GAIL (India) Limited. The vehicles have a stamp of the GAIL brand on the doors to emphasize that the project is being provided for by GAIL (India) Limited.

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.

I. Short Term Impacts

a. Improvement in the waste collection and segregation process

Prior to the launch of the Swachh Bharat Mission, municipality workers collected household waste in some areas while housing complexes used private contract agencies to ensure waste collection.³³ As per the interviewed stakeholders from the implementing agency, the vehicles being used for waste collection were either rickshaws with no segregated bins or other container vehicles that lacked capacity to supplement the collection process of the selected locations. They provided very low-quality services and frequently dumped waste on public grounds or vacant lots, compromising the health of the community. The collected waste was often dropped

³³ <https://www.smartcityindore.org/solid-waste/>



in dumpsters located near roadways. These dumpsters were too few and unable to contain the amount of waste being thrown into them, and the overflow of waste caused an unsanitary and unsightly atmosphere in the communities.³⁴ Therefore, maintaining the health and hygiene of the districts was a significant challenge due to the inadequate collection and transportation of household waste.³⁵

Based on the type of waste and the best approaches for treatment and disposal, waste should be segregated. If household waste is not adequately segregated, it will possibly end up intermixed in landfills just as it was in household bins. Food scraps, paper, and liquid waste can combine and decay, releasing toxic gas into the atmosphere and runoff into the soil.³⁶

Addressing these issues, “tipper dustbins” were introduced during the implementation of SBM to increase the efficacy of the processes of waste collection and waste segregation at source. Through the utilization of partitioned vehicles, door-to-door collecting is conducted. The tippers are used to move the waste to Garbage transfer stations for secondary collection.³⁷ Each tipper has three distinct collection bins for wet, dry, and household hazardous waste. These tippers transport waste from households to the transfer station, where it is then carried by hook loaders to the trenching grounds. A GPS-enabled tracking system keeps track of every vehicle utilised in the collection and transportation network.³⁸

However, these tippers were provided in five districts only due to limitations in terms of budget, time, and effort. As a result, certain areas were excluded from the new and improved waste collection and segregation procedure.

³⁴ Ibid.

³⁵ Ibid.

³⁶ <https://axil-is.com/blogs-articles/waste-segregation/#:~:text=Failing%20to%20segregate%20trade%20waste,harmful%20gas%20into%20the%20atmosphere.>

³⁷ Ibid.

³⁸ Ibid.



Figure 4: Inauguration ceremony for tippers in Indore, MP

In order to widen the reach of the innovation and contribute to improve the general waste collection conditions of the districts, GAIL CSR responded to this need by contributing financially to the issue and assisting in the provision of a sufficient number of tippers for the untapped areas.

Districts	Number of tippers provided by GAIL	Type of Vehicle
Guna	2	CNG BS6
Shivpuri	2	Diesel BS6
Ashoknagar	1	Diesel BS6
Raghogarh	1	Diesel BS6
Indore	3	CNG BS6

Table 7: Number of Tippers supported under GAIL's CSR initiative

As per the stakeholders interviewed, the waste collection process in their districts is carried out daily, sometimes also in two shifts on a routine basis to cater to the waste collection requirements of the districts. They reaffirmed that the waste that is collected from the households is segregated, helping in collecting the waste in the designated partition areas of the tippers. This helps in removing one step of the waste collection process and the waste collected is taken straight to the dumping ground for further processing. The segregation of waste at source helps in maintaining efficiency as it reduces the time, effort and cost factors involved in

segregating the waste manually after being accumulated at the dumping sites for the respective districts.

The following image illustrates the process of waste management that follows the waste segregation and collection.

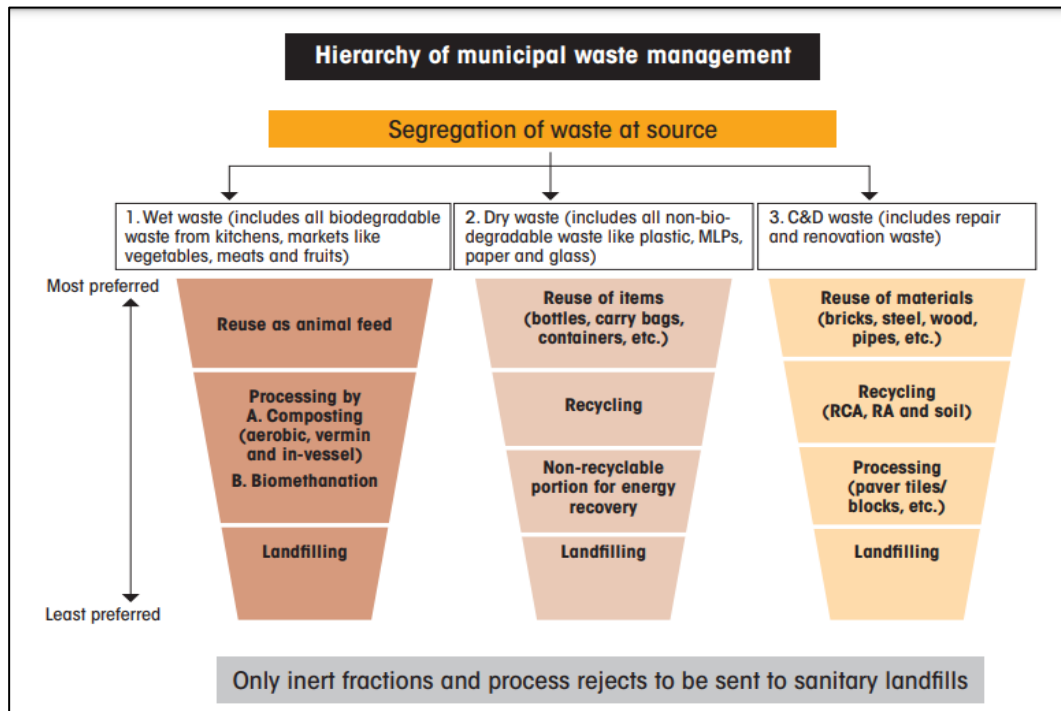


Figure 5: Waste Management Process
Source: Guidelines for Swachh Bharat Mission (urban) 2.0, 2021

As per the municipality stakeholders interviewed from the districts of Guna and Shivpuri, they were aware of the waste management process whereas the stakeholders from the Raghogarh municipality were suggested to learn the step-by-step process followed for the waste collection as the awareness towards the process is necessary especially among officials who are involved in the waste collection process.



Figure 6: Handing over tippers to the drivers in Indore, MP

The tippers being used for the waste collection process go through the regular wear and tear due to being used daily. According to the interviewed stakeholders, the tippers were handed over to their municipalities after being delivered and the municipalities were deemed solely responsible for the maintenance and repair work required for the tippers. The stakeholders also mentioned that the tippers received a free servicing during the first year of their usage and after that, the municipalities have taken the financial responsibility of funding any servicing or repairs required for the continued smooth functioning of the tippers. The repair and maintenance services necessary for the upkeep of the tippers are quite vital since they help in keeping the operation of the vehicles that are a crucial element of the primary waste collection operations. Even a single non-functioning tipper might cause a waste collection backlog from a sizable number of households, resulting in an inefficient waste management procedure, even if just for a few days.

All the interviewed stakeholders highlighted the positive impact of the project of providing tippers to the target districts as it helped in increasing the overall reach of the innovation of using partitioned dustbin vehicles to collect waste from households. The capacity of the tippers provided by GAIL was more than the government-sanctioned tippers, which helped in less trips to and from the dumping sites, resulting in saving all- time, cost and money. The CNG tippers provided by GAIL were more energy-efficient and environment-friendly than the diesel tippers, as per the stakeholders and the demand for more such CNG tippers was made by them as suggestions to proceed forward with this project in the foreseeable future.



b. Holistic improvement in the socio-economic well-being of waste collectors /manual scavengers

It is crucial to have alternatives for waste collection because the waste collection industry heavily relies on manual waste collectors, also known as manual scavengers, who are unofficially hired to collect wastes directly from households or public waste disposal points and segregate them as well. This increases their workload and poses risks to them.

According to the interviewed stakeholders, the manual waste collectors were responsible for door-to-door collection of waste in those areas of the target districts where there were no tippers available for this service. The household waste collected was usually collected in one bag/packet without any segregation being done at the source, i.e., the households. The manual waste collectors were in charge of hauling the collected waste to the primary disposal sites, which are generally dumpsters, and then making an effort to separate as much waste into the categories of dry and wet waste as feasible. This method of waste management and segregation was inefficient since it is impossible to segregate waste effectively after it has been amassed in a massive pile. Since the different waste categories could not receive their intended treatment for effective utilisation, the poor quality of waste segregation ultimately led to an ineffective waste management system moving forward.

The provision and use of tippers to expand coverage in the remaining areas of the targeted districts and aided in ensuring the following aspects:

- It contributed to a reduction in the necessity for door-to-door manual waste collectors. The waste collectors' health and living conditions have improved as a result of the transition because they are no longer directly exposed to household waste.
- In order to make it simpler to dispose of the waste and handle it appropriately during the waste management process, the provision of tippers also urged the households to adopt the practice of waste segregation at source. This made the entire process more effective in terms of time, money, and effort by further reducing the exposure of the manual waste collectors to the waste during the manual segregation method that was necessitated earlier.

The stakeholders pointed out the fact that manual scavengers still have to expose themselves to waste that is retrieved from sewage drains. This emphasises the necessity of improving the formal waste management and collection system that includes not only households but also sewage drains and other public disposal sites. This would far more effectively ensure that the districts are kept clean and hygienic.

II. Long Term Impacts

a. Awareness creation regarding waste segregation

The potential of the population and administration is hampered by lack of awareness. Both sides must be informed about the current state of affairs and SWM's development. By measuring public involvement and awareness via

knowledge gap analysis, which encourages informed decision-making, awareness-related issues can be addressed.³⁹

No matter how waste is being generated, segregating waste is the real roadblock faced by the country. Waste collection and segregation are done simultaneously in India. It is the responsibility of the citizen to separate and dispose of waste according to the specified categories.

According to the interviewed stakeholders, the provision of tippers by GAIL helped in increasing the awareness among the communities in the target districts. The designated partitioned containers on the tippers aimed to raise public awareness of segregation at the point of source.



Figure 7: Inauguration ceremony for tippers in Indore, MP

The tippers urged people to realize and understand that a door-to-door collection system is more effective at segregation than a centralized collection system, as substantiated by multiple studies as well.

The successful collection, segregation, and processing of solid waste have been shown to be significantly hampered by public opinion and willingness to pay for solid waste management.⁴⁰

b. Improved hygiene and sanitation in the districts

The proportion of waste being disposed in public dumping sites has significantly decreased as a result of the better waste collection services in the target districts' selected locations. The overall surroundings of the districts improved significantly due to reduced public waste disposal, creating cleaner and healthier settings.

³⁹ Gour A. Singh S. (2022 October 27) *Solid Waste Management in India: A State-of-the-Art Review*. Environmental Engineering Research 2023. Vol 28(4).

⁴⁰ Ibid.

People in the target districts gradually experienced better living and health conditions as a result of cleaner environments. A reduction in the overall financial burden of health issues on communities is a direct result of improved health conditions. This leads to an improvement in the economic growth and well-being of the population as they are able to devote more time and effort to income-generating activities as a result of being less ill.



Figure 8: News article covering the project

1.7 Overall rating of the project

The scoring matrix was used to evaluate and score performance of the project of providing tipper dustbins to the district of Guna, Madhya Pradesh. The following table provides the overall rating across the defined parameters:

Location	Relevance	Coherence	Efficiency	Effectiveness	Impact	Sustainability	Total Score
Guna, Madhya Pradesh	80%	100%	100%	100%	100%	100%	96%

Table 8: Overall scoring of project

The project for support under Swachh Bharat Mission for equipment like mobility vehicles in the districts of Guna, Shivpuri, Ashoknagar, Raghogarh and Indore in Madhya Pradesh scored an average of **96%**. 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 programme aimed to help Municipal Corporations in the target districts implement the Swachh Bharat Abhiyan by providing waste collecting tippers. All stakeholders thought this initiative was important in their district since it helped ensure door-to-door waste collection due to increased availability of waste collecting tippers. They also claimed that the project was essential in promoting garbage segregation at the source among the communities in the target districts.

The total score of the project for support under Swachh Bharat Mission for equipment like mobility vehicles in the districts of Guna, Shivpuri, Ashoknagar, Raghogarh and Indore, Madhya Pradesh came to **96%** due to which this project can be rated as “**Highly Impactful**” in nature.

1.8 Conclusion and Way Forward

Due to the waste management practices used prior to the implementation of the Swachh Bharat Mission, there was little to no comprehension of both the hazards associated with public waste disposal and the importance of segregation of waste at the source. The SBM programme adequately addressed this challenge, and the nation's total waste management system significantly improved as a result. The programme also evaluated a number of other WASH-related concerns that were directly or indirectly linked to one another, making it a comprehensive approach to address the nation's WASH problems.

This study sought to evaluate the effects of the GAIL CSR project, which provided Swacchta equipment like tippers to the target districts of Guna, Shivpuri, Ashoknagar, Raghogarh and Indore in Madhya Pradesh.

The objective of GAIL CSR was to assist in achieving the SBM-set goals and to expand the program's scope and enhance its overall implementation. The interviewed stakeholder voiced their appreciation and satisfaction for the project's successful execution, which assisted them in improving the waste management standards in their districts. The project was implemented successfully, and it has helped to close existing gaps in the waste collection system that were present in the target districts' selected locations.

To increase the impact of the project as well as ensure continued impact of the current project outcomes, the following challenges can be addressed in the following recommendations:

- **Replace outdated tippers:** The target districts where tippers were previously operating by the Municipality need assistance from GAIL to replace such tippers as they have become outdated/old and require more time and resources to maintain and deploy for daily door-to-door collection of household waste.
- **Follow up process:** After the tippers were distributed, there was no procedure in place to follow up with the Municipal Corporations about the operation and maintenance of the vehicles. The stakeholders who were interviewed suggested that



the implementing agency follow up for at least a year after the delivery and handover to ensure that the tippers are operating properly as well as to offer any needed assistance.

- **CNG tippers:** The stakeholders who were interviewed also indicated that they required CNG-powered tippers rather than diesel models since it would help to minimise pollution as well as reduce the daily working costs of the vehicles.
- **Support in new municipality:** Mohana, a new municipal corporation that has been established in 2021 in the district of Gwalior, does not have the provision of tippers to carry out the process of segregated waste collection from households. It was suggested that GAIL could support the development of this new district by providing tippers for the new department, to ensure effective waste collection in the district.
- **Awareness generation:** For similar kind of projects, going forward, GAIL may collaborate with the implementing agency and the Municipal Corporation to include a component of awareness generation at regular intervals in order to ensure that the community members are better aware regarding different aspects of waste segregation such as wet waste and dry waste segregation etc. This would further aid the Municipal Corporation in ensuring smooth waste collection & segregation at the household level.
- **Monitoring and reporting:** It is also recommended, from the viewpoint of monitoring and reporting, that, going forward, GAIL and the COWE may coordinate to ensure proper documentation among themselves to keep track of the procurement, delivery, and follow-up processes in order to improve the project's overall execution.



Thank you



kpmg.com/socialmedia

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2023 KPMG Assurance and Consulting Services LLP, an Indian Limited Liability Partnership, and a member firm of the KPMG global organisation of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved