



Study Report on
**Impact Assessment of Corporate Social Responsibility Activities of
Mahanadi Coalfields Limited, Burla, Sambalpur**

Submitted to
Mahanadi Coalfields Limited, Sambalpur, Odisha



Study Conducted by
**School of Management
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2023**

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Acknowledgement

This report is an outcome of the Impact Assessment Study undertaken by the School of Management, National Institute of technology Rourkela as awarded by Mahanadi Coalfields Limited (MCL), Burla, Sambalpur, Odisha. The study was undertaken to assess the impact of various strategic corporate social responsibility activities undertaken by Mahanadi Coalfields Limited (MCL) in four different districts of Odisha from such as Sambalpur, Jharsuguda, Angul, and Khordha.

We are expressing our sincere gratitude to Shri Keshav Rao, Director (Personnel) for awarding this assignment to NIT Rourkela. It is our privilege to extend our thanks to Shri Rajanikant Panigrahi, General Manager (CSR), for providing essential and constant guidance throughout the course of this study. Additionally, we would like to extend our special thanks to Shri Arabinda Sahoo, Deputy Manager (CSR) for his continuous support to make this study more meaningful and exemplary outcome.

Moreover, we would like to extend our sincere thanks to Mahanadi Coalfields Limited (MCL) and all other functionaries helped during the period of field survey. We acknowledge the partnership with Mahanadi Coalfields Limited (MCL), Burla and hope our partnership for impact assessment will continue in near future.

A special thanks to Prof. K. Umameheshwar Rao, Director, NIT Rourkela and Dean (SRICCE) for giving us a complete freedom and facilitating environment to undertake this study.

We would like to thank all the stakeholders who devoted their valuable time to the study and extended extreme support for smoothly completion of the study. It would not have been possible to do justice to this study and complete it successfully without the respondents who were always more than willing to help. Their inputs have enriched the study immensely.

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Summary

In today's highly competitive business environment, it is crucial for organizations to acknowledge the importance of cultivating mutually beneficial relationships with society to secure their sustainability in the long run. By aligning their operational practices with societal demands, businesses can effectively contribute to both their own sustainable growth and the overall well-being of the communities they serve. The main aim of this research is to analyze the socioeconomic impacts of different corporate social responsibility (CSR) initiatives implemented by Mahanadi Coalfields Limited. Moreover, the objective of the study is to put forth recommendations for improving the implementation of corporate social responsibility initiatives. To carry out this study, data was gathered from a diverse array of individuals, encompassing ground-level beneficiaries, sarpanches, ex-sarpanches, panchayat secretaries, self-help groups (SHGs), intervention staff, and forest department officials. A wide range of data collection methods, including observation, personal interviews, and focused group discussions, were utilized to gather comprehensive responses from a sample size exceeding 1500 individuals.

The results of the field study indicate that Mahanadi Coalfields Limited (MCL), in partnership with the implementing agency, has primarily implemented interventions that have successfully addressed the needs and requirements of the beneficiaries. However, it is worth noting that certain industries, such as pipe water supply and toy train, did not succeed in achieving their intended objectives in promoting sustainable societal development in specific intervention sites. The report suggests a set of mitigation measures for Mahanadi Coalfields Limited (MCL) to implement in response to the identified issues at the intervention sites. These measures are designed to effectively tackle the challenges and optimize the overall effectiveness of corporate social responsibility (CSR) initiatives.

The research study concludes by offering a thorough summary of the findings and presenting recommendations for the successful implementation of the proposed mitigation measures. It underscores the significance of businesses actively participating in collaborative endeavors with society to attain sustainable growth and create a favorable impact on the community. By implementing the recommended mitigation measures, the objective is to establish a more favorable and sustainable future for all stakeholders involved. These endeavors not only yield advantages for the company but also have a positive impact on society.

Prof. Chandan Kumar Sahoo

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Table of Contents

1. Introduction	1
2. Importance of CSR Impact Assessment	1
3. Corporate Social Responsibility Measures of MCL	2
4. Relevance of the Study	3
5. Scope of the Study	3
6. Objectives of the Study	3
7. Comprehensive List of CSR Activities by MCL	4
8. Assessment of CSR Projects of MCL	5
8.1 Construction and repairing of Roads, Drains	5
8.2 Construction and Renovation of Roads	19
8.3 Pipe Water Supply Works	40
8.4 Promoting Sanitation	71
8.5 Afforestation Activities	81
8.6 Promotion of Tourism	100
9. Conclusion	105
10. Case Studies	111

List of Tables

Table 1: Performance Statistics last three years of MCL	2
Table 2: CSR Activities of MCL Assigned for Impact Assessment	4
Table 3: Status of Road and Drainage System before Extension of CSR Intervention	8
Table 4: Relevance of the Intervention	9
Table 5: Efficiency of the Intervention	10
Table 6: Effectiveness and Uniqueness of the Intervention	10
Table 7: Impact of the Intervention	11
Table 8: Sustainability of the Intervention	12
Table 9: Status of Road and Drainage System before Extension of CSR Intervention	14
Table 10: Relevance of the Intervention	15
Table 11: Efficiency of the Intervention	16
Table 12: Effectiveness and Uniqueness of the Intervention	16
Table 13: Impact of the Intervention	17
Table 14: Sustainability of the Intervention	18
Table 15: Status of Road and Drainage System before Extension of CSR Intervention	20
Table 16: Relevance of the Intervention	20
Table 17: Efficiency of the Intervention	21
Table 18: Effectiveness and Uniqueness of the Intervention	22
Table 19: Impact of the Intervention	22
Table 20: Sustainability of the Intervention	23
Table 21: Status of Road and Drainage System before Extension of CSR Intervention	25
Table 22: Relevance of the Intervention	26
Table 23: Efficiency of the Intervention	26
Table 24: Effectiveness and Uniqueness of the Intervention	27
Table 25: Impact of the Intervention	28
Table 26: Sustainability of the Intervention	28
Table 27: Status of Road and Drainage System before Extension of CSR Intervention	30
Table 28: Relevance of the Intervention	31
Table 29: Efficiency of the Intervention	31
Table 30: Effectiveness and Uniqueness of the Intervention	32
Table 31: Impact of the Intervention	33
Table 32: Sustainability of the Intervention	33
Table 33: Status of Road and Drainage System before Extension of CSR Intervention	35
Table 34: Relevance of the Intervention	36
Table 35: Efficiency of the Intervention	37
Table 36: Effectiveness and Uniqueness of the Intervention	37
Table 37: Impact of the Intervention	38
Table 38: Sustainability of the Intervention	38
Table 39: Responses from the Beneficiaries	42
Table 40: Responses from the Beneficiaries	47
Table 41: Responses from the Beneficiaries	51
Table 42: Responses from the Beneficiaries	55

Table 43: Responses from the Beneficiaries	59
Table 44: Responses from the Beneficiaries	64
Table 45: Responses from the Beneficiaries	68
Table 46: Status of Toilets and Bathrooms before Extension of CSR Intervention	76
Table 47: Relevance of the Intervention	77
Table 48: Efficiency of the Intervention	77
Table 49: Effectiveness and Uniqueness of the Intervention	78
Table 50: Impact of the Intervention	79
Table 51: Sustainability of the Intervention	80
Table 52: Background of Afforestation Activities	83
Table 53: Relevance of the Intervention	84
Table 54: Efficiency of the Intervention	85
Table 55: Effectiveness and Uniqueness of the Intervention	85
Table 56: Impact of the Intervention	86
Table 57: Sustainability of the Intervention	87
Table 58: Background of Afforestation Activities	89
Table 59: Relevance of the Intervention	90
Table 60: Efficiency of the Intervention	91
Table 61: Effectiveness and Uniqueness of the Intervention	91
Table 62: Impact of the Intervention	92
Table 63: Sustainability of the Intervention	93
Table 64: Background of Ropeway Project	95
Table 65: Relevance of the Intervention	96
Table 66: Efficiency of the Intervention	97
Table 67: Effectiveness and Uniqueness of the Intervention	97
Table 68: Impact of the Intervention	98
Table 69: Sustainability of the Intervention	99
Table 70: Background of Toy Train Project	100
Table 71: Relevance of the Intervention	101
Table 72: Efficiency of the Intervention	101
Table 73: Effectiveness and Uniqueness of the Intervention	102
Table 74: Impact of the Intervention	103
Table 75: Sustainability of the Intervention	103
Table 76: Deliverables of CSR Interventions	105
Table 77: Overall Assessment of CSR Projects of MCL	107
Table 78: Recommendations for Improvement	109

List of Figures

Figure 1: Details about this Intervention	7
Figure 2: Availability of Drainage System before Extension of Intervention	7
Figure 3: Uses of Road for the Beneficiaries	7
Figure 4: Uses of Drainage System for the beneficiaries	8
Figure 5: Status of Road and Drainage System before Extension of CSR Intervention	8
Figure 6: Relevance of Intervention	9
Figure 7: Efficiency of the Intervention	10
Figure 8: Effectiveness and Uniqueness of the Intervention	10
Figure 9: Impact of the Intervention	11
Figure 10: Sustainability of the Intervention	12
Figure 11: Type of Road before Extension of Intervention	13
Figure 12: Availability of Drainage System Extension of Intervention	13
Figure 13: Uses of Road for the Beneficiaries	13
Figure 14: Uses of Drainage System for the beneficiaries	14
Figure 15: Status of Road and Drainage System before Extension of CSR Intervention	14
Figure 16: Relevance of the Intervention	15
Figure 17: Efficiency of the Intervention	16
Figure 18: Effectiveness and Uniqueness of the Intervention	16
Figure 19: Impact of the Intervention	17
Figure 20: Sustainability of the Intervention	18
Figure 21: Type of Road before Extension of Intervention	19
Figure 22: Uses of Road for the Beneficiaries	20
Figure 23: Status of Road and Drainage System before Extension of CSR Intervention	20
Figure 24: Relevance of the Intervention	21
Figure 25: Efficiency of the Intervention	21
Figure 26: Effectiveness and Uniqueness of the Intervention	22
Figure 27: Impact of the Intervention	23
Figure 28: Sustainability of the Intervention	23
Figure 29: Type of Road before Extension of Intervention	24
Figure 30: Uses of Road for the Beneficiaries	25
Figure 31: Status of Road and Drainage System before Extension of CSR Intervention	25
Figure 32: Relevance of the Intervention	26
Figure 33: Efficiency of the Intervention	27
Figure 34: Effectiveness and Uniqueness of the Intervention	27
Figure 35: Impact of the Intervention	28
Figure 36: Sustainability of the Intervention	28
Figure 37: Type of Road before Extension of Intervention	30
Figure 38: Uses of Road for the Beneficiaries	30
Figure 39: Status of Road before Extension of CSR Intervention	30
Figure 40: Relevance of the Intervention	31
Figure 41: Efficiency of the Intervention	32
Figure 42: Effectiveness and Uniqueness of the Intervention	32

Figure 43: Impact of the Intervention	33
Figure 44: Sustainability of the Intervention	34
Figure 45: Type of Road before Extension of Intervention	35
Figure 46: Uses of Road for the Beneficiaries	35
Figure 47: Status of Road and Drainage System before Extension of CSR Intervention	36
Figure 48: Relevance of the Intervention	36
Figure 49: Efficiency of the Intervention	37
Figure 50: Effectiveness and Uniqueness of the Intervention	37
Figure 51: Impact of the Intervention	38
Figure 52: Sustainability of the Intervention	39
Figure 53: Sources of Drinking Water before extension of intervention	41
Figure 54: Sources of Non-Drinking Water before extension of intervention	41
Figure 55: Uses of Pipe Water Supply for the Beneficiaries	41
Figure 56: Average Responses of the Beneficiaries	43
Figure 57: Sources of Drinking Water before extension of intervention	45
Figure 58: Sources of Non-Drinking Water before extension of intervention	45
Figure 59: Uses of Pipe Water Supply for the Beneficiaries	46
Figure 60: Average Responses of the Beneficiaries	48
Figure 61: Sources of Drinking Water before extension of intervention	50
Figure 62: Sources of Non- Drinking Water before extension of intervention	50
Figure 63: Uses of Pipe Water Supply for the Beneficiaries	50
Figure 64: Average Responses of the Beneficiaries	52
Figure 65: Sources of Drinking Water before extension of intervention	54
Figure 66: Sources of Non-Drinking Water before extension of intervention	54
Figure 67: Uses of Pipe Water Supply for the Beneficiaries	54
Figure 68: Average Responses of the Beneficiaries	56
Figure 69: Sources of Drinking Water before extension of intervention	58
Figure 70: Sources of Non-Drinking Water before extension of intervention	59
Figure 71: Uses of Pipe Water Supply for the Beneficiaries	59
Figure 72: Average Responses of the Beneficiaries	61
Figure 73: Sources of Drinking Water before extension of intervention	63
Figure 74: Sources of Non-Drinking Water before extension of intervention	63
Figure 75: Uses of Pipe Water Supply for the Beneficiaries	63
Figure 76: Responses from the Beneficiaries	65
Figure 77: Sources of Drinking Water before extension of intervention	67
Figure 78: Sources of Non-Drinking Water before extension of intervention	67
Figure 79: Uses of Pipe Water Supply for the Beneficiaries	67
Figure 80: Responses from the Beneficiaries	69
Figure 81: Demographic and Socio-economic details of the Beneficiaries	75
Figure 82: Uses of Toilets for the Beneficiaries	75
Figure 83: Uses of Bathroom for the Beneficiaries	76
Figure 84: Status of Toilets and Bathrooms before Extension of CSR Intervention	76
Figure 85: Relevance of the Intervention	77
Figure 86: Efficiency of the Intervention	78

Figure 87: Effectiveness and Uniqueness of the Intervention	78
Figure 88: Impact of the Intervention	79
Figure 89: Sustainability of the Intervention	80
Figure 90: Background of Afforestation Activities	84
Figure 91: Relevance of the Intervention	84
Figure 92: Efficiency of the Intervention	85
Figure 93: Effectiveness and Uniqueness of the Intervention	86
Figure 94: Impact of the Intervention	87
Figure 95: Sustainability of the Intervention	87
Figure 96: Background of Afforestation Activities	90
Figure 97: Relevance of the Intervention	90
Figure 98: Efficiency of the Intervention	91
Figure 99: Effectiveness and Uniqueness of the Intervention	92
Figure 100: Impact of the Intervention	92
Figure 101: Sustainability of the Intervention	93
Figure 102: Uses of Ropeway for the Beneficiaries	95
Figure 103: Background of Ropeway Project	96
Figure 104: Relevance of the Intervention	96
Figure 105: Efficiency of the Intervention	97
Figure 106: Effectiveness and Uniqueness of the Intervention	98
Figure 107: Impact of the Intervention	98
Figure 108: Sustainability of the Intervention	99
Figure 109: Background of Toy Train Project	100
Figure 110: Relevance of the Intervention	101
Figure 111: Efficiency of the Intervention	102
Figure 112: Effectiveness and Uniqueness of the Intervention	102
Figure 113: Impact of the Intervention	103
Figure 114: Sustainability of the Intervention	103

1. Introduction

In the dawn of the 21st century, we find ourselves confronted with an array of extraordinary challenges and boundless opportunities, all propelled by the unstoppable force of globalization. Indian business entities, widely acknowledged as responsible and integral contributors to our nation, are now poised to embrace prominent leadership positions in tackling the emerging challenges of our era. In the past few decades, a notable trend has emerged, placing increasing importance on the integration of social, environmental, and ethical responsibilities within corporate governance. This shift is driven by the recognition that such integration is crucial for ensuring long-term success, maintaining competitiveness, and fostering sustainability. This perspective astutely recognizes the profound role that businesses play within society, as they are not only key contributors to economic growth and development, but also possess a moral imperative to foster and bolster thriving ecosystems, champion social inclusivity and equity, and actively contribute to the progress of our nation.

In recent years, Indian Public Sector Undertakings (PSUs) have undeniably made remarkable strides in their journey towards becoming prominent global enterprises. In this context, the vast potential and remarkable influence possessed by these individuals in effecting positive transformations in the lives of countless individuals cannot be overstated. To achieve this objective, it is imperative for PSUs to cultivate and implement all-encompassing and strategic interventions that are specifically designed to enhance the overall welfare of individuals, those who find themselves in economically disadvantaged and marginalized circumstances. In addition to their primary objectives, it is imperative for organizations to prioritize the fulfillment of fundamental human rights and entitlements. This entails assuming accountability for the individuals who are directly impacted by their operations.

Monitoring and assessing the impact of corporate social responsibility (CSR) activities is of utmost importance in ensuring their successful implementation. The paramount gauge of triumph for every CSR and sustainability endeavor resides within its profound social, economic, and environmental ramifications. Every single activity is meticulously crafted and flawlessly executed, with the utmost intention of generating a profound impact on both society and the environment. In assessing the level of success achieved by the completed project, it is imperative to consider the potential impacts that were initially anticipated. The primary objective of an impact assessment study is to meticulously establish precise parameters that will enable the comprehensive evaluation of the impact generated by CSR activities. The primary objective of this study is to redirect attention from mere expenditure to the actual outcomes and impacts attained up to the level of expectation of both the sponsoring organization (MCL) and the beneficiaries.

2. Importance of CSR Impact Assessment

Impact assessment is an important monitoring tool for the CSR activities. The ultimate test of the success of any CSR and sustainability activity / project is the social, economic, or environmental impact thereof. Every such activity is planned and implemented with some anticipated impact on society or the environment. It is against such perception and expectation of impact that the completed activity / project must be measured to ascertain the degree of its success. The aim of the impact assessment study is to create accurate parameters in assessing the impact of CSR activities by shifting the focus from expenditure alone to the outcome /impact, and improving the quality of CSR projects, scope of replication and effective planning. Impact Assessment Study of the CSR activities are being undertaken in respect of projects valued more than Rs. 1.00 Crore. Here are some key reasons highlighting the need for and importance of CSR impact assessment:

- **Measuring Impact:** CSR impact assessment statistically and qualitatively evaluates CSR results and consequences, enabling organizations to evaluate performance against goals and objectives. This evaluation analyzes if CSR initiatives are beneficial and suggests changes.
- **Accountability and Transparency:** CSR impact assessment shows the company's social and environmental performance. Investors, consumers, employees, and the community can assess the company's ethical actions. Measuring impacts boosts credibility.
- **Strategy:** Impact evaluation informs CSR strategy. Impact assessment results enable data-driven decision-making, resource allocation, and focused impactful CSR programs.
- **Risk Management:** CSR impact evaluations reduce risks and negative impacts. Preventing and managing unanticipated effects saves reputation, regulatory, and other issues.
- **Continuous Improvement:** Impact evaluations improve CSR practices. Analyzing project efficacy and making adjustments for improvement CSR activity.
- **Stakeholder engagement** is encouraged by CSR impact evaluation. Local communities, NGOs, experts, and other stakeholders contribute valuable perspectives to assessment. This engagement promotes communication, relationships, and stakeholder needs and concerns in CSR decision-making.

3. CSR Measures of MCL

Mahanadi Coalfields Limited (MCL) is a fully owned coal producing Minorant CPSE which is a subsidiary company of CIL. The Company was incorporated in 1992. The Company has its expense in 4 districts of Odisha namely Sambalpur (Corporate HQ), Jharsuguda, Sundargarh and Angul. It caters to 25% of the coal production of Coal India Limited. The mining operations are spread over two coalfields, Talcher and Ibe coalfields which are divided into 10 Administrative Areas. The company presently operates 15 opencast and 5 underground coal mines. More than 99% of the production comes from opencast mines.

- The company has a well carved-out CSR policy approved by its Bodes.
- Major CSR projects executed by the Company are of the nature of high investment-high impact with a presence in almost all the sectors of development, far reaching, outcome oriented and most importantly aligned with the national inclusive developmental priorities.
- Company is at no.1 position in Odisha, in terms of CSR spent.
- Company complies with the provisions of section 135 of Companies Act 2013, the subordinate legislation made thereunder, CSR guidelines/ circulars issued by DPE and Ministry of Corporate Affairs:
- It has a Board level CSR committee and a below-Board level CSR committee.

FY	2019-20	2020-21	2021-22
Coal Production	140.36 millionTe	148.01 millionTe	168.17 millionTe
PBT	8645.47 Cr.	9316.79 Cr.	11462.42 Cr.
Prescribed CSR budget re as per Companies Act 2013	156 Cr.	168 Cr.	182 Cr.
Actual CSR Spent	165 Cr.	205 Cr.	252 Cr.

Table 1: Performance Statistics (Last three years)

Since its inception, MCL has been involved in CSR, deriving policies enforced from time to time by CIL. In the good olden days, the terms used were 'Peripheral Area Development' or 'Welfare works'. Then, CIL came up with 'Community Development Policy' within the periphery of 8 km of the Intervention sites and MCL adopted the same. Later, the term 'CSR' came into official dealings. CIL introduced its CSR policy in 2010 based on the DPE guidelines for CPSE. This policy was made applicable to

subsidiary companies (including MCL) as well. The Policy entailed fund allocation based on 5% of the retained earnings of the previous year subject to a minimum of Rs. 5 per ton of coal production of previous year. This policy was operational within a radius of 15 km of the Intervention site and areas including Headquarters. Further CSR activities could also be undertaken beyond mining areas within the respective State with the approval as per norms. Post mandated CSR in 2014, CIL and all its subsidiary companies (including MCL) came up with a broad CSR Policy in tune with the Companies Act and accompanying Rules/ Guidelines. The fund allocation was kept at 2% of average PBT of last 3 FY or Rs. 2 per ton of coal production of previous year whichever is higher. MCL has its operations in four districts of Odisha i.e. Angul, Jharsuguda, Sundargarh, and Sambalpur. The CSR Policy of MCL states that 80% of the CSR budgeted amount should be spent within the radius of 25 km of the Intervention site/ Mines/ Area HQ/ Company HQ and 20% of the budget would be spent in other parts of Odisha. Therefore, most of the CSR project sites are located in the four operational districts as stated above. The thematic areas of CSR projects undertaken by MCL are in line with the activities stated in Schedule VII of Companies Act 2013 which is also a part of the CSR policy of MCL. The CSR interventions are grouped under the broad areas like healthcare, drinking water, sanitation, rural development, education, promotion of sports, and promotion of cultural heritage.

4. Relevance of the Study

The relevance of the study is to examine the perception of the beneficiaries about MCL as a responsible corporate citizen for implementation of appropriate measures relating to construction and maintenance of roads and drains, rural sanitation, water supply through pipelines, development of tourist places by adding attractive facilities, and massive afforestation measures toward environmental protection. Its significance also lies in assessing the impact of CSR activities on the lives of the beneficiaries and attraction of tourists to the developed places. The focused interaction with the group of recipients in the proposed study is intended to improve the understanding of the problems faced by the people in the project areas. Based on the in-depth analysis, the relevance of the study also lies in identifying the interventions which have provided maximum benefits to the local populace while suggesting relevant recommendations for the organization so that it can optimally expend in areas where it is needed the most.

5. Scope of the Study

As a part of its CSR interventions, the Mahanadi Coalfields Limited (MCL), Burla, Sambalpur aims to enhance the quality of life of the local communities in the vicinity of the coal mines. The interventions are a part of the CSR agenda as it seeks to actively engage in improving the socio-economic condition of people, which will subsequently improve the quality of life of the people in the area with increasing scale of CSR at MCL. Thus, the scope of the study is limited to CSR measures extended by MCL for betterment of the people within 25 kms. of the mining activities and the projects completed near the state capital Bhubaneswar. During the period 2013-14 FY to FY 2019-20 FY, MCL has completed twelve CSR activities with total value Rs.3260.48 lakhs.

The proposed study will take into consideration the framework of CSR measures extended by MCL, the process of its implementation, and the local communities who have benefited from these initiatives to enable holistic understanding of the pertaining issues. This impact assessment study will take various factors into consideration in an ambit which includes appropriate beneficiaries, judicious use of fund, role perception of family members, review of implementation mechanism, organization's visibility, and sustainability of projects. The study team has given emphasis on impact assessment of these CSR interventions based on opinions of respondents.

6. Objectives of the Study

The prime objective of the assigned impact assessment study was to find out the impact of all CSR measures taken towards the betterment of the local community, tourists, and ecological balance. Broadly speaking it was proposed to examine:

- Whether the measures taken are need based.
- Whether the programs are implemented successfully.
- Continuous monitoring and evaluation of the measures.
- Exploration of the possibilities towards sustainable measures.

The specific objectives of the present study are as follows:

- To study and understand the strategic CSR measures taken by MCL for common wellbeing of the local beneficiaries.
- To assess performance of the implemented twelve CSR activities and impact on quality of life of local community.
- To make an analysis on physical and financial performance of each intervention for judicial use of allotted CSR funding.
- To measure direct and indirect impact of this CSR intervention taken up by MCL through comparison of before-after scenario.
- To review the gaps in the project implementation, beneficiary's involvement, and recommendations regarding continuation, scaling, replication and further improvements.
- To explore sustainability aspect of the completed CSR projects.

7. Comprehensive List of CSR Interventions of MCL

The twelve CSR interventions, which are implemented by the MCL, are clearly depicted in table 2.

Sl. No.	Description of Activities	Implementing Agency	Work Value (Rs in Lakhs)	Start FY-Completion FY
Construction, Repair and Maintenance of Roads and Drainage System				
1	Repairing & strengthening of roads, drains R&R site Tikilipara.	MCL directly	112.43	2017-18 to 2018-19
2	Strengthening of bituminous road including both sides cement concrete drain from Gurudwara to FCI gate as a CSR initiative of MCL under Jagannath Area.	MCL directly	259.1	2019-20 to 2020-21
Construction, Repair and Maintenance of Roads				
3	Construction of WBM with BM road from Kumunda village Panchayat office via Tentulisahi to Purunapanisahi of Kumunda village near Hingula OCP, HA.	MCL directly	105.03	2018-19 to 2018-19
4	Village near Hingula OCP, HA Renovation of Bituminous Road from Dera to Kandhaberani.	MCL directly	106.05	2018-19 to 2019-20
5	Const. of cement concrete road from Madan Mohan Chhak towards Gopinath village in Ward no.:3 and Ward no:16 of Talcher Municipality under CSR of Talcher Area at Talcher, Angul.	MCL directly	310.06	2014-15 to 2014-15
6	Black topping of road from Radharamanpur village to JillindachhakArakhapal to Biraramchanderpur under CSR scheme of BBSR OCP, JA.	MCL directly	210.13	2016-17 to 2018-19
Construction, Repair and Maintenance of Water Supply				

7	Construction of 7 nos. PWS Works at Talcher Block.	Collector Angul	210.2	2015-16 to 2019-20
Promotion of Tourism				
8	Ropeway Project from Nehru Park to Gandhi Minar at Hirakud side of Dam at Sambalpur. (Rs. 60 lakhs paid for warranty not included).	Collector Sambalpur	787.41	2013-14 to 2018-19
9	Operation of toy train in Nandankanan	Dy. Director, Nandankanan Zoo	300.00	2016-17 to 2020-21
Rural Sanitation Facility				
10	Construction of Toilet & bathroom components along with connected administration & Management expense as part of ongoing project of sustainable development works in operational district by Gram Vikash.	Gram Vikas	253.13	2018-19 to 2020-21
Afforestation Activities				
11	Implementation of Afforestation activities under Corporate Sector during 2017-18 on deposition basis through Divisional Forest, Jharsuguda forest Division for 4 years.	DFO, Jharsuguda	399.2	2017-18 to 2020-21
12	Urban plantation under corporate sector for FY 2017-18 to be executed by DFO, Chandaka Division, Bhubaneswar Division, MCL CSR.	DFO, Chandaka	207.74	2017-18 to 2020-21

Table 2: CSR Activities of MCL Assigned for Impact Assessment

8. Assessment of CSR Projects of MCL

An attempt was made to assess the impact of twelve CSR projects undertaken by MCL during the period 2013-14 to 2020-21. Several CSR activities are undertaken specific area wise by MCL, systematic effort was given to explore and find out the impact of key CSR activities on improvement of quality of life of beneficiaries.

8.1 Intervention: Construction and Repairing of Roads and Drains

An emphasis on repairing and strengthening the existing roads and drainage system is to enhance safety, functionality, and durability. By addressing issues such as potholes, damaged sections, and blocked drainage, it aims to provide a smooth and efficient transportation network while minimizing the risk of accidents, improving water flow, and reducing long-term maintenance costs.

Objectives

The specific objectives of this intervention are to:

- To ensure safety of the commuters
- To improve functionality of roads and drains
- To enhance durability and resistance to deterioration
- To optimize traffic flow and reduce congestion
- To minimize environmental impact through proper drainage and maintenance
- To prevent accidents and injuries caused by road hazards
- To address blocked or insufficient drainage for efficient water flow

Research Methodology

Both qualitative and quantitative data collected and analyzed for the very purpose of this study through extensive field study conducted by the study team. Opinion survey, interviews, direct observation, and concentrated group discussions was adopted to collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with MCL's CSR

coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data. The opinion survey of the beneficiaries was carried out by deploying field investigators under the supervision of Principal Investigator and Co-Principal Investigator. The primary concern was to ensure quality information through well-designed schedule, structured interviews, and focused group discussions with the local people.

Phase I: Sampling Procedure

The local communities, MCL’s CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique was used for this study.

Phase II: Determination of Sample Size

$$SS = \frac{Z^2 * P * (1-P)}{C^2} \dots\dots\dots (1) \text{ (Determination of sample size for infinite population)}$$

$$SS = \frac{SS}{(1 + \frac{(SS-1)}{\text{Population}})} \dots\dots\dots (2) \text{ (Determination of sample size for finite population)}$$

Where SS – sample size, Z – standardized value corresponding to a confidence level (95 per cent level), p- percentage of population picking a choice, and C- confidence interval. If Z= 1.96, p = 60 % = .60, 1-p = .40, c = 4 % = .04, then SS = 576 (for infinite population). Total no. of 735 samples were collected from two the beneficiaries relating to two interventions.

8.1.1 Repairing and Strengthening of Roads, Drains of R & R Site Tikilipara



Display Board Regarding Intervention at Tikilipara



Display Board Regarding Intervention at Tikilipara



Current condition of Drainage System at Tikilipara

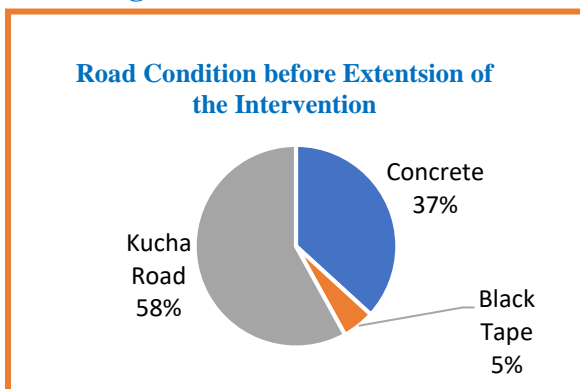


Interaction with the beneficiaries of Tikilipara

Overview of the Intervention

CSR Project	Repairing & Strengthening of roads, drains of R&R site Tikilipara
Cost of the Intervention	Rs. 112.43 Lakhs
Location (District, State)	Tikilipara, Sundargarh, Odisha
Number of beneficiaries	3000 people of surrounding villages
Project Status	Completed
Year of Commencement	2017-18
Year of Completion	2018-19

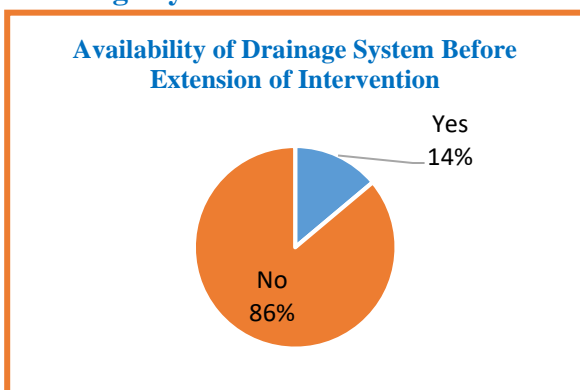
Prevailing Condition of the Facilities before Extension of the Intervention



Only 19 individuals, constituting a mere 5% of the total respondents, reported the existence of a black tape road prior to implementation of the intervention. According to the respondents, the prevalence of concrete roads was reported to be 37%, while the prevalence of kucha roads was reported to be 58%.

Figure 1: Details about this Intervention

Drainage System before Extension of the Intervention



A striking majority of respondents, comprising an impressive 86% of the total, expressed their agreement with the absence of a drainage system prior to the intervention. In stark contrast, a mere 14% of respondents, amounting to a paltry 51 individuals, claimed that a drainage system was indeed available.

Figure 2: Drainage System before Extension of the Intervention

Need for better Condition of the Road

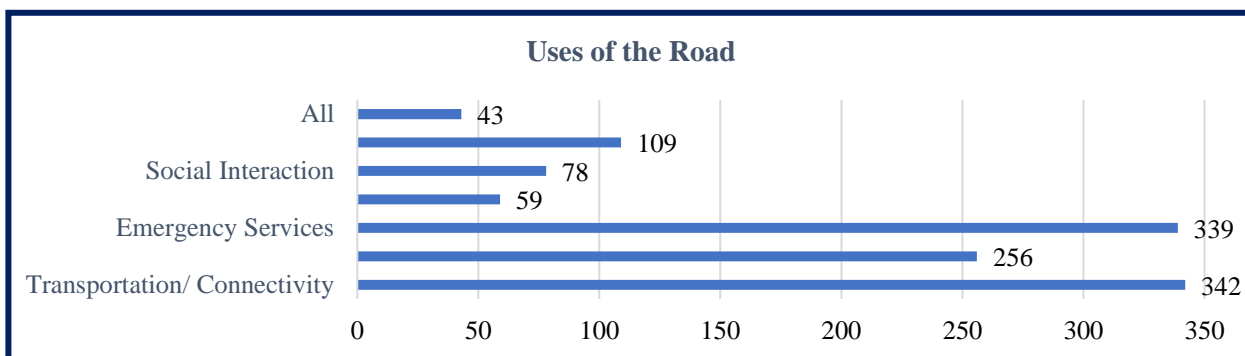


Figure 3: Demand for Improvement in Condition of the Road at R & R Site, Tikilipara

A large majority of the beneficiaries recognize the main use of the road at R & R site, Tikilipara in connectivity to different nearby areas and transportation purpose (98%, or 342). A significant number of the respondents claim the road is useful for smooth trade and commerce (73%, or 256). The number of people who understand necessity of a better road in emergencies (97%, or 339) is also very high. Furthermore, the respondents agreed that the use of roads in infrastructure development, social interaction, and tourism is 109 (31%), 78 (22%), and 59 (17%), respectively. 43 people agree that the road serves all the above purposes.

Drainage System

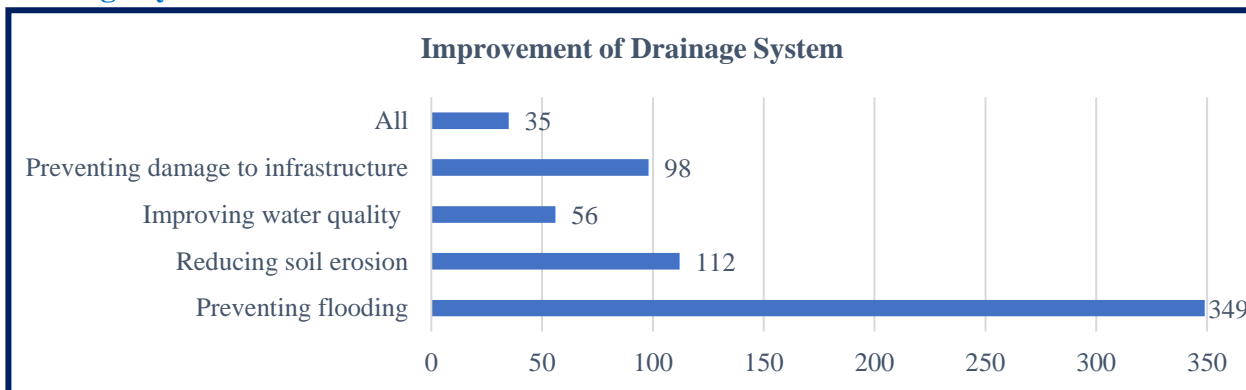


Figure 4: Improvement of Drainage System

All the beneficiaries (100% or 349) have recognized the bare requirement of a better drainage system in preventing water logging. The respondents also claim the drainage system is useful for reducing soil erosion (32% or 112) and preventing infrastructure damage (28% or 98). The number of people realized the role of good drainage system in improving water quality (16% or 56) while only 35 (1%) people agreed the drainage system serves all the above purposes.

Status of Road and Drainage System before Construction and Maintenance

	Responses	Mean Score
Q1	Village Road is relatively narrow and an obstacle for communication.	4.12
Q2	The road was in a bad shape, which is causing minor accidents.	4.28
Q3	There is a need for widening of the road on both sides is quite helpful for the local population.	3.93
Q4	Earlier it was evidenced that no timely repair or maintenance of the road.	4.05
Q5	Drainage system was in complete damage condition.	4.02
Q6	During rainy season often leads to rainwater rushing into homes, causing damage and loss of household belongings.	4.21
Q7	During the rainy season, infectious diseases are proliferating because of sewage overflow.	3.97

Table 3: Status of Road and Drainage System before Extension of CSR Intervention

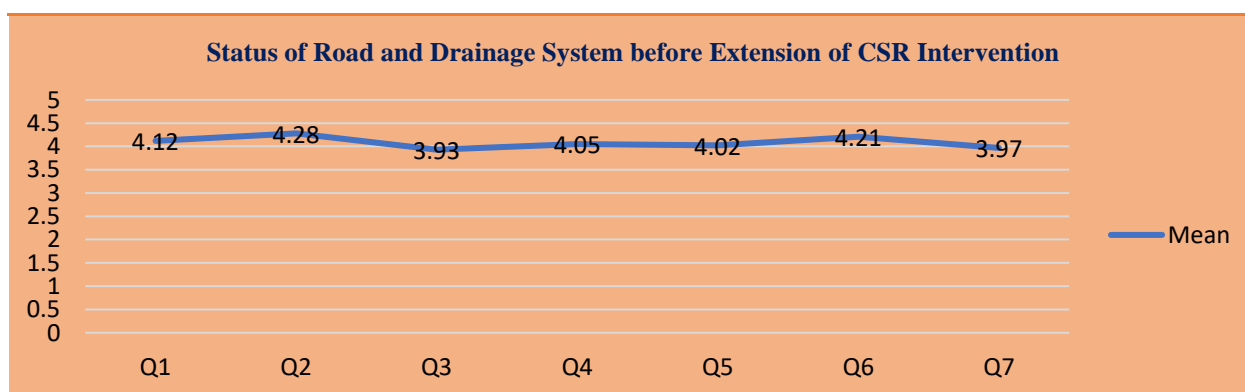


Figure 5: Status of Road and Drainage System

The beneficiaries suggested that the road was narrow which hinders smooth communication with an average mean score of 4.12. A large majority of beneficiaries claimed that minor accidents used to happen due to bad shaped road with an average mean score of 4.28. It was found that there was a need for widening of the road on both sides for the local population with an average means score of 3.98. Most beneficiaries claimed that there was no timely repair or maintenance of the road with an average mean score of 4.05. The respondents suggested the drainage system was completely damaged with an average mean score of 4.02. As the beneficiaries suggested, the rainwater was causing damage to their household belongings with an average mean score of 4.21. Furthermore, respondents said the infectious diseases were proliferating due to sewage overflow with an average mean score of 3.97.

Relevance

	Responses	Mean Score
Q8	Focus on construction and maintenance of roads, drains and culverts is based on the basic needs of the local people as realized by MCL.	4.11
Q9	Roads and Drainage system are constructed with good quality and standards (bituminous and concrete).	4.67
Q10	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.33
Q11	Repairing and maintenance of roads is required for further strengthening in order to extend better communication facilities.	4.01
Q12	The structure of drains and culverts are quite appropriate for proper drainage of water during rainy season.	3.13
Q13	The road and drainage system are properly constructed in consultation with the representatives of local government.	4.26
Q14	The goal of construction of roads, drains and culverts is to strengthen the public transportation system.	4.52
Q15	MCL's CSR policy is also focusing on rural development through construction and repairing of roads, drains and culverts.	4.21

Table 4: Relevance of the Intervention

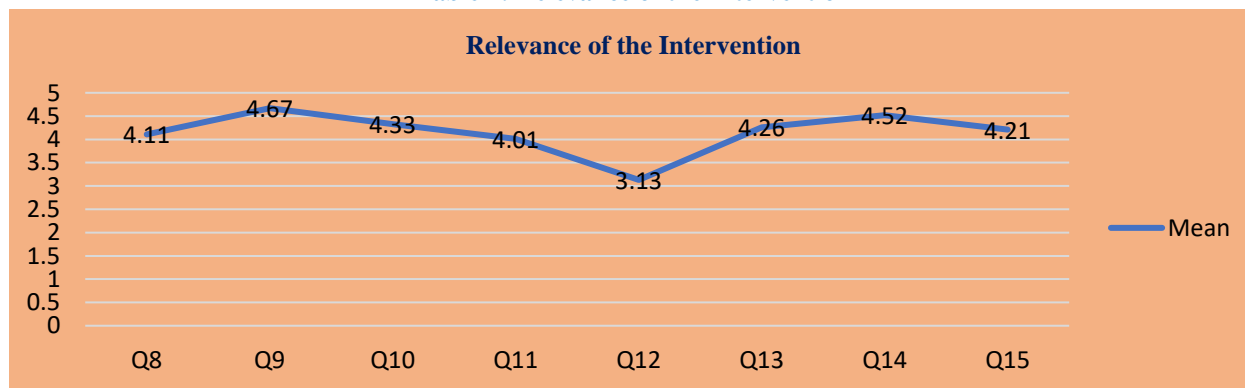


Figure 6: Relevance of the Intervention

With an average mean score of 4.11, recipients said MCL understood that building and maintaining roads, drains, and culverts meets local needs. The road and drain constructed is of good quality and standard as mean score is 4.67. With a mean score of 4.33, beneficiaries demanded for construction and repair of road and drainage for easy commuting. The beneficiaries proposed improving roads to improve communication with an average mean score of 4.01 while proper drainage of water (3.13), and consultation with the representatives of local government (4.26). With an average mean score of 4.52, many respondents said that building roads, drains, and culverts would improve public transit. Respondents opined MCL's CSR strategy has focused on rural development (4.21).

Efficiency

	Responses	Mean Score
Q16	The quality of construction and maintenance of roads, drains and culverts are up to the level of satisfaction.	4.29
Q17	The construction work was completed in due course of time.	4.68
Q18	Optimum utilization of funds allocated for this intervention and true value addition towards rural development system.	3.98
Q19	The construction work was completed under close guidance and monitoring of the CSR Dept. professionals of MCL.	4.42

Table 5: Efficiency of the Intervention

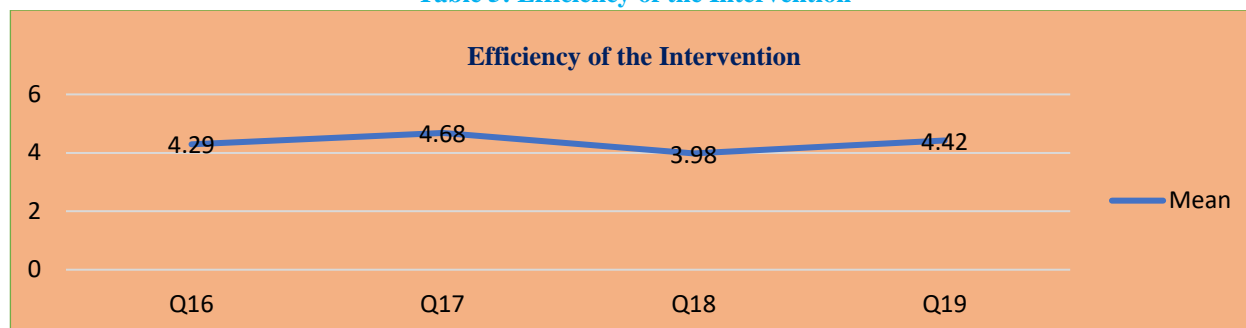


Figure 7: Efficiency of the Intervention

The beneficiaries have opined that the quality of construction and maintenance of roads, drains and culverts are up to the level of satisfaction with an average mean score of 4.29. A large majority of beneficiaries claimed that the construction work was completed in due course of time with an average mean score of 4.68. The respondents realized about an optimum utilization of funds allocated for this intervention and true value addition towards rural development system with an average mean score of 3.98. As the beneficiaries responded the construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL with an average mean score of 4.42.

Effectiveness and Uniqueness

	Responses	Mean Score
Q20	Roads are wide enough for smooth functioning of traffic flow.	3.92
Q21	The drainage system is properly designed to facilitate smooth flow of water, both during rainy days and normal day.	3.01
Q22	Beneficiaries/Villagers are happy with the quality of the road and drainage system constructed.	3.84
Q23	MCL has successfully commissioned this intervention with active support from the construction firm.	3.96
Q24	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.12
Q25	MCL has focused on awareness about the intervention by placing of display board regarding the measure extended.	3.82

Table 6: Effectiveness and Uniqueness of the Intervention

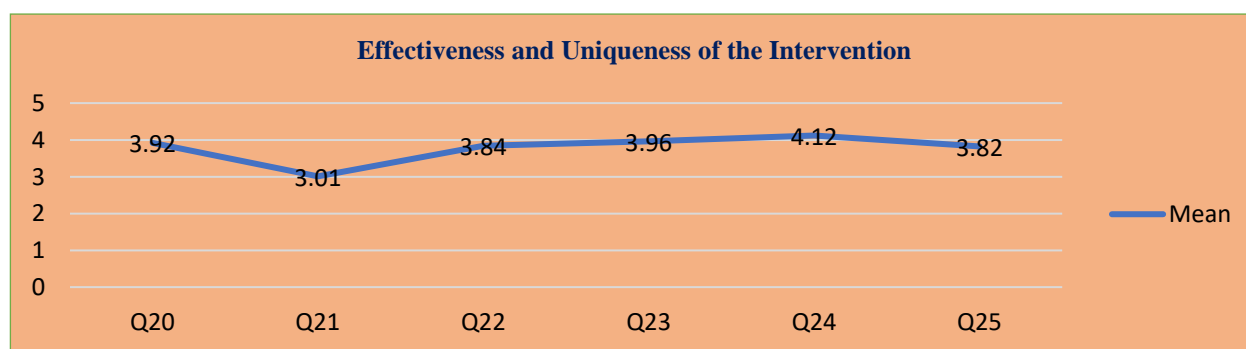


Figure 8: Effectiveness and Uniqueness of the Intervention

The beneficiaries realized that the roads are wide enough for smooth functioning of traffic flow with an average mean score of 3.92. As opined by the beneficiaries, the drainage system is properly designed to facilitate smooth flow of water, both during rainy days and normal days with an average mean score of 3.01. It is found that the beneficiaries are happy with the quality of the road and drainage system constructed with an average mean score of 3.84. As the beneficiaries suggested, MCL has successfully commissioned this intervention with active support from the construction firm with an average mean score of 3.96. A large majority of beneficiaries claimed that the project was completed before the scheduled time and people of nearby areas have accessed this measure with an average mean score of 4.12. The respondents suggested that MCL has focused on awareness about the intervention by placing a display board regarding the measure extended with an average mean score of 3.82.

Impact

	Responses	Mean Score
Q26	Construction of road has helped to improve connectivity among the villages and nearby areas.	4.23
Q27	This will help in the smooth transportation of goods and services.	4.42
Q28	The measures are quite helpful for school and college going young people.	4.06
Q29	This will play an important role in the rainy season as a safe mode of transport.	4.28
Q30	This effective drainage system will help to reduce household losses during the rainy season due to flooding and prevent from damage of the road.	3.78
Q31	The drainage system is also helping in reducing transmission of infectious diseases.	3.66
Q32	The beneficiaries are aware about the investment made by MCL for construction of roads, drains, and culverts.	3.96
Q33	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.16

Table 7: Impact of the Intervention

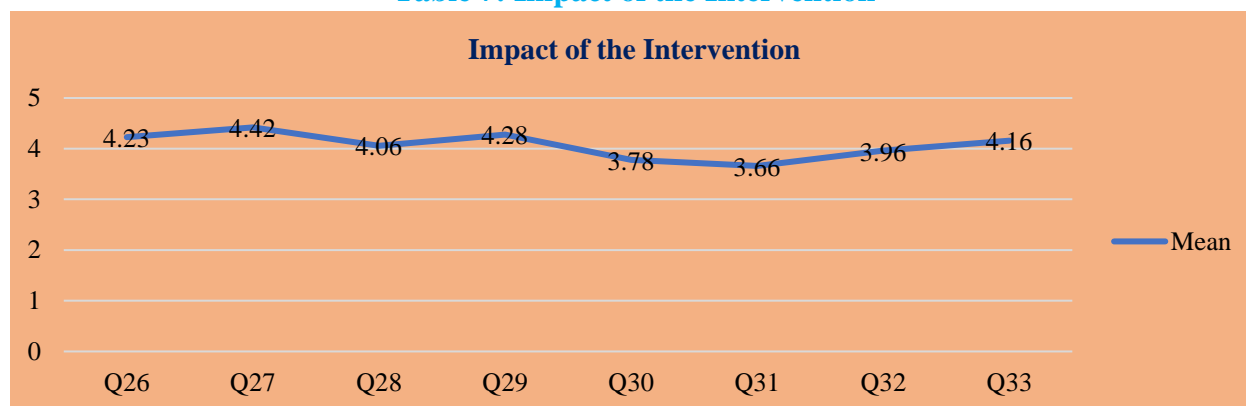


Figure 9: Impact of the Intervention

With an average mean score of 4.23, beneficiaries said improvement in connectivity among the villages and nearby areas, smooth transportation of goods and services (4.42), beneficial for school and college students (4.06), and hassle free travel during rainy season (4.28). With an average mean score of 3.78, this effective drainage system will reduce water logging and road damage during the rainy season. The drainage system reduces infectious illness transmission by 3.66. Beneficiaries, who scored 3.96 on average, knew MCL's investment in roads, drains, and culverts. The beneficiaries have remarked MCL as a responsible corporate citizen with 4.16 as average mean score.

Sustainability

	Responses	Mean Score
Q34	Periodic repair and maintenance of road, drains and culverts are required for effective use of the beneficiaries.	2.72
Q35	Timely support from the Government/local administration will be essential for repair and maintenance of roads and drainage system extended by MCL.	4.25

Q36	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	3.15
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Table 8: Sustainability of the Intervention

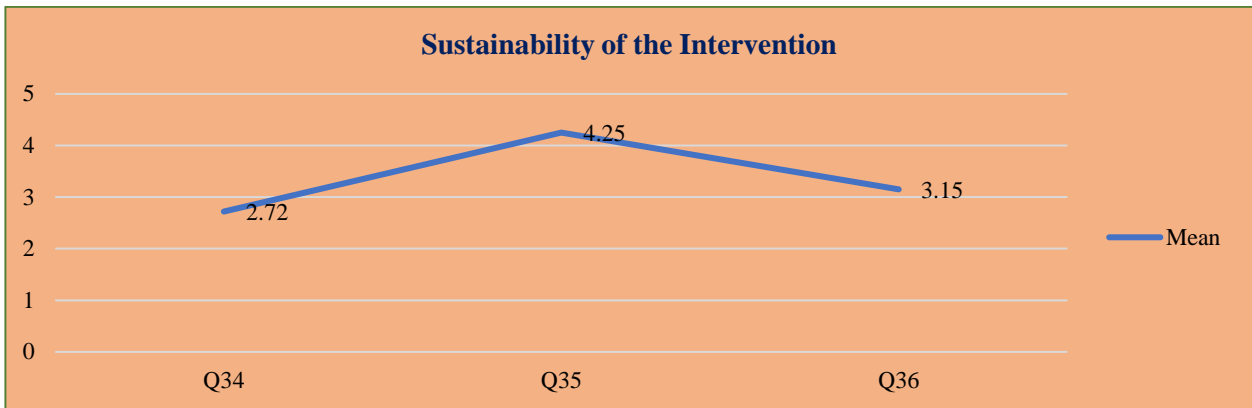


Figure 10: Sustainability of the Intervention

Beneficiaries are concerned about the repair and maintenance of road and culvert with average response score of 2.72. A large majority of beneficiaries supported that there is a need for financial support for timely repair and maintenance of roads and drainage systems by the Government or local administration with an average mean score of 4.25. From the survey it is found that the actual beneficiaries of the interventions are not fully aware about the long-term benefits with average mean score of 3.15.

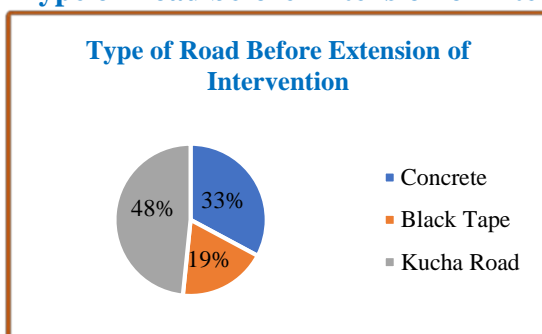
8.1.2 Strengthening of Bituminous Road including both side Concrete Drain from Gurudwara to FCI, Talcher



Overview of the Intervention

Project name	Strengthening of bituminous road including both sides cement concrete drain from Gurudwara to FCI gate as a CSR initiative of MCL under Jagannath Area
Cost of the Intervention	Rs. 259.10 Lakhs
Location (District, State)	Gobara, Tentulei, Badjorada, Sanajorada, GurudwarSahi, Mina Bazaar Sahi of Angul
Number of beneficiaries	Surrounding villagers
Project Status	Completed
Year of Commencement	2019-20
Year of Completion	2020-21

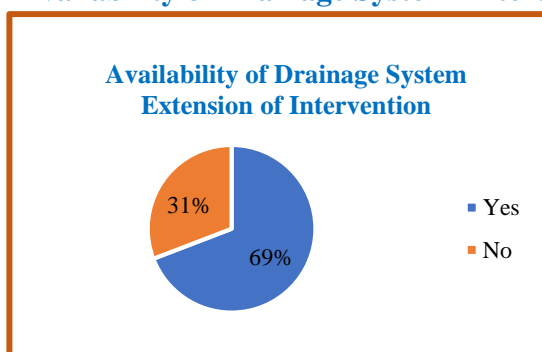
Type of Road before Extension of Intervention



According to the survey results, a mere 75 individuals, accounting for a modest 19% of the total respondents, reported the existence of a black tape road prior to the implementation of the intervention. According to the respondents, a significant proportion of them (33%) reported the presence of concrete roads, while an even higher percentage (48%) highlighted the prevalence of kucha roads.

Figure 11: Type of Road before Extension of Intervention

Availability of Drainage System Extension of Intervention



A significant majority of respondents, comprising 69% or a total of 276 individuals, expressed agreement with the absence of a drainage system prior to the intervention. In contrast, a smaller proportion of respondents, specifically 31% or 123 individuals reported the presence of a drainage system.

Figure 12: Availability of Drainage System Extension of Intervention

Need for better Condition of the Road

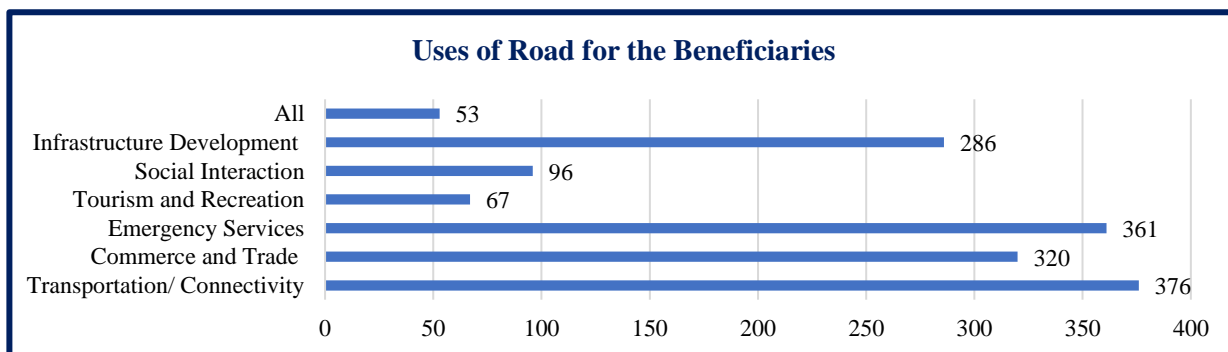


Figure 13: Uses of Road for the Beneficiaries

A large majority of the beneficiaries recognize the main use of road in connectivity and transportation (94% or 376). A significant number of the respondents claim the road is useful for smooth trade and

commerce (80% or 320). The number of people who understand the role of good road in emergencies (90% or 361) is also very high. Furthermore, the respondents agreed that the use of road in infrastructure development, social interaction, and tourism is (286 or 71%), (24% or 96) and (17% or 67) respectively. There are 53(13%) people who agreed the road serves all the above purposes.

Drainage System

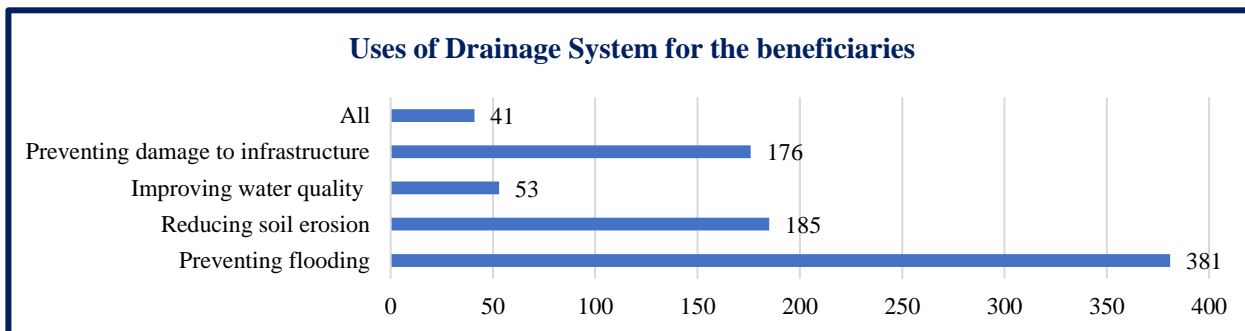


Figure 14: Uses of Drainage System for the beneficiaries

A large majority (95% or 381) of the beneficiaries recognize the help of drainage system preventing flooding. A significant number of the respondents claim the drainage system is useful for reducing soil erosion (46% or 185) and preventing infrastructure damage (44% or 176). The number of people understands the role of good drainage system in improving water quality (13% or 53) while 41 (10%) people agreed the drainage system serves all the above purposes.

Status of Road and Drainage System before Extension of CSR Intervention

	Responses	Mean Score
Q1	Village Road is relatively narrow and an obstacle for communication.	4.22
Q2	The road was in a bad shape, which is causing minor accidents.	4.31
Q3	There is a need for widening of the road on both sides is quite helpful for the local population.	4.56
Q4	Earlier it was evidenced that no timely repair or maintenance of the road.	4.10
Q5	Drainage system was in complete damage condition.	4.72
Q6	During rainy season often leads to rainwater rushing into homes, causing damage and loss of household belongings.	4.02
Q7	During the rainy season, infectious diseases are proliferating as a result of sewage overflow.	4.15

Table 9 Status of Road and Drainage System before Extension of CSR Intervention

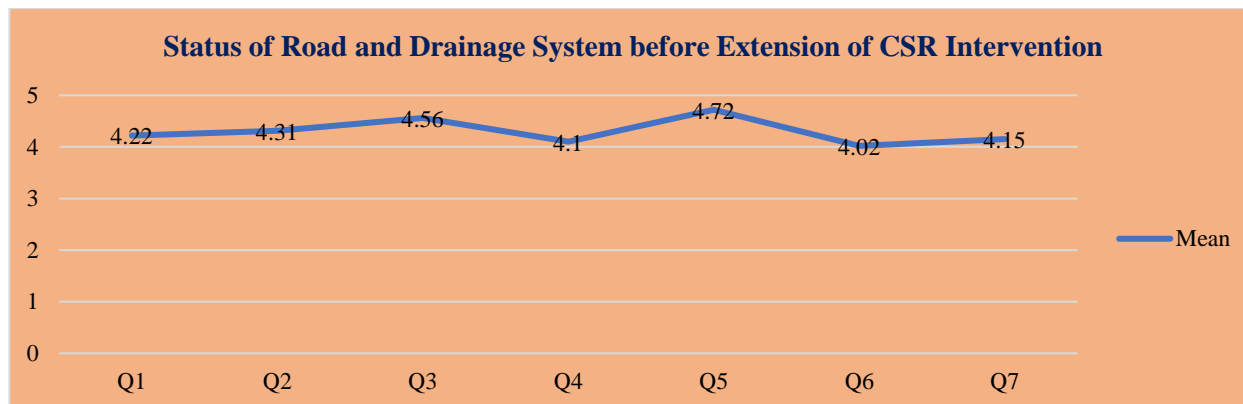


Figure 15: Status of Road and Drainage System before Extension of CSR Intervention

According to the beneficiaries, the small route impeded communication, as evidenced by the mean score of 4.22. Most beneficiaries reported that minor accidents were primarily caused by unsafe road conditions, as evidenced by a mean score of 4.31. The residents of the local community expressed a need for the expansion of the road on both sides, with a rating of 4.56. Most beneficiaries assigned a mean score of 4.10 to the road. According to the survey respondents, the drainage system received a rating of 4.72. According to the beneficiaries, their household goods were reported to have been damaged by rainwater, with an average mean score of 4.02. According to the respondents, who achieved a score of 4.15, sewage overflow has the potential to disseminate contagious infections.

Relevance

	Responses	Mean Score
Q8	Focus on construction and maintenance of roads, drains and culverts is based on the basic needs of the local people as realized by MCL.	4.51
Q9	Roads and Drainage system are constructed with good quality and standards (bituminous and concrete).	3.12
Q10	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.25
Q11	Repairing and maintenance of roads is required for further strengthening to extend better communication facilities.	4.35
Q12	The structure of drains and culverts are quite appropriate for proper drainage of water during rainy season.	2.25
Q13	The road and drainage system are properly constructed in consultation with the representatives of local government.	2.34
Q14	The goal of construction of roads, drains and culverts is to strengthen the public transportation system.	3.98
Q15	MCL's CSR policy is also focusing on rural development through construction and repairing of roads, drains and culverts.	3.85

Table 10: Relevance of the Intervention

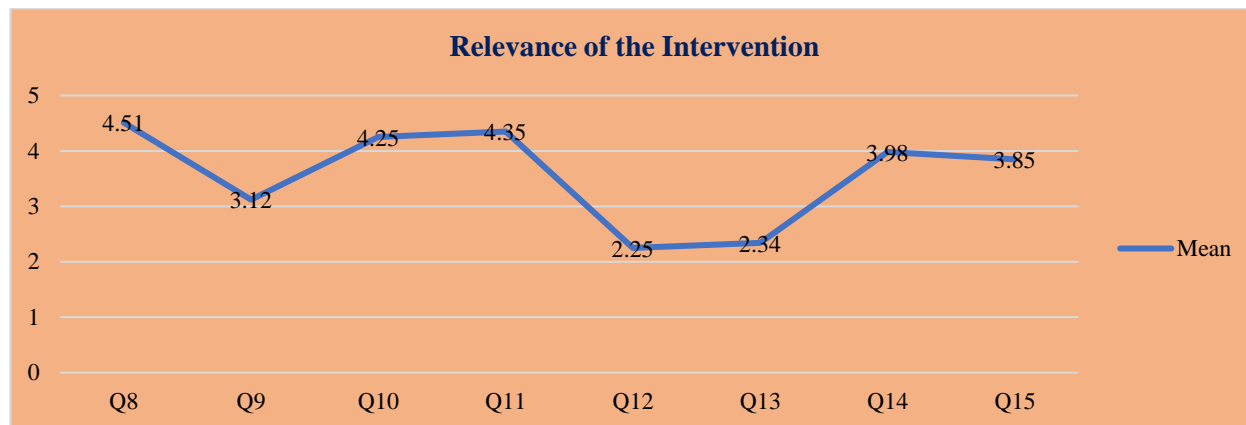


Figure 16: Relevance of the Intervention

Beneficiaries acknowledged MCL's understanding of local needs through the construction and maintenance of roads, drains, and culverts, with an average mean score of 4.51. However, they rated the quality of roads and drains at 3.12 on average. Strong demand was expressed for public road construction and repair to ensure easy movement, scoring an average mean of 4.25. The beneficiaries suggested repairing roads for improved communication, with an average mean score of 4.35. Some respondents appreciated the suitability of drains and culverts for rainy season drainage (average mean score of 2.25) and emphasized proper construction by local government authorities (average mean score of 2.34). Many believed that these infrastructure developments would enhance public transit (average mean score of 3.98), while also commending MCL's CSR policy for its rural development focus (average mean score of 3.85).

Efficiency

	Responses	Mean Score
Q16	The quality of construction and maintenance of roads, drains and culverts are up to the level of satisfaction.	2.12
Q17	The construction work was completed in due course of time.	4.26
Q18	Optimum utilization of funds allocated for this intervention and true value addition towards rural development system.	4.05
Q19	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	3.85

Table 11: Efficiency of the Intervention

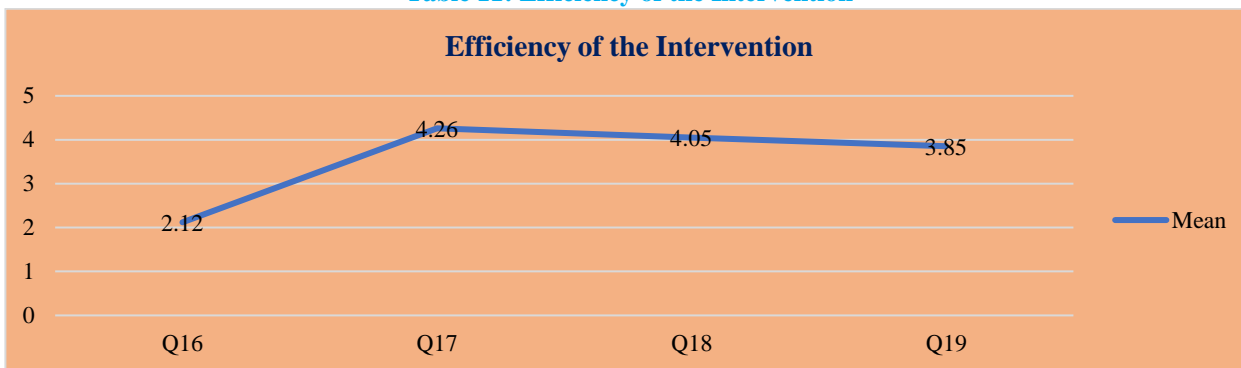


Figure 17: Efficiency of the Intervention

A large majority of beneficiaries claimed that the construction work was completed in due course of time with an average mean score of 4.26. However, the beneficiaries agreed that the quality of construction and maintenance of roads, drains and culverts are up to the level of satisfaction with an average mean score of 2.12 only. The respondents suggested an optimum utilization of fund allocated for this intervention and true value addition towards rural development system with an average mean score of 4.05. As the beneficiaries suggested the construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL with an average mean score of 3.85.

Effectiveness and Uniqueness

	Responses	Mean Score
Q20	Roads are wide enough for smooth functioning of traffic flow.	4.23
Q21	The drainage system is properly designed to facilitate smooth flow of water, both during rainy days and normal da	2.11
Q22	Beneficiaries/Villagers are happy with the quality of the road and drainage system constructed.	2.36
Q23	MCL has successfully commissioned this intervention with active support from the construction firm.	3.91
Q24	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.12
Q25	MCL has focused on awareness about the intervention by placing of display board regarding the measure extended.	4.26

Table 12: Effectiveness and Uniqueness of the Intervention

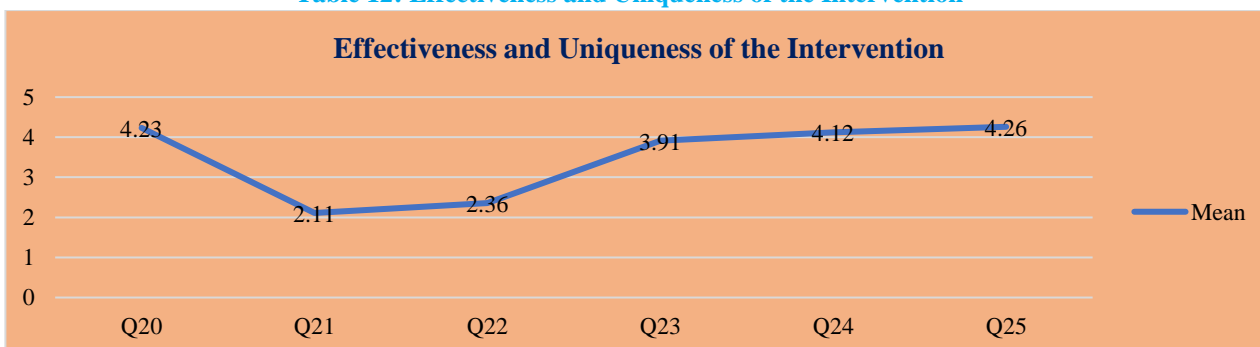


Figure 18: Effectiveness and Uniqueness of the Intervention

According to the beneficiaries, the roads are wide enough to ensure smooth traffic flow, scoring an average mean of 4.23. However, they expressed moderate satisfaction with the drainage system, rating its design for water flow during rainy and normal days at an average mean of 2.11. The beneficiaries generally showed moderate contentment with the constructed road and drainage quality, with an average mean score of 2.36. They acknowledged MCL's successful implementation of the project, supported by the construction firm, with an average mean score of 3.91. A significant majority reported that the project was completed ahead of schedule, enabling nearby residents to benefit (average mean score of 4.12). Respondents also appreciated MCL's efforts to raise awareness by displaying information boards about the intervention, scoring an average mean of 4.26.

Impact

	Responses	Mean Score
Q26	Construction of road has helped to improve connectivity among the villages and nearby areas.	4.15
Q27	This will help in the smooth transportation of goods and services.	4.03
Q28	The measures are quite helpful for school and college going young people.	3.92
Q29	This will play an important role in the rainy season as a safe mode of transport.	2.98
Q30	This effective drainage system will help to reduce household losses during the rainy season due to flooding and prevent from damage of the road.	2.56
Q31	The drainage system is also helping in reducing transmission of infectious diseases.	2.30
Q32	The beneficiaries are aware about the investment made by MCL for construction of roads, drains, and culverts.	4.25
Q33	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.01

Table 13: Impact of the Intervention

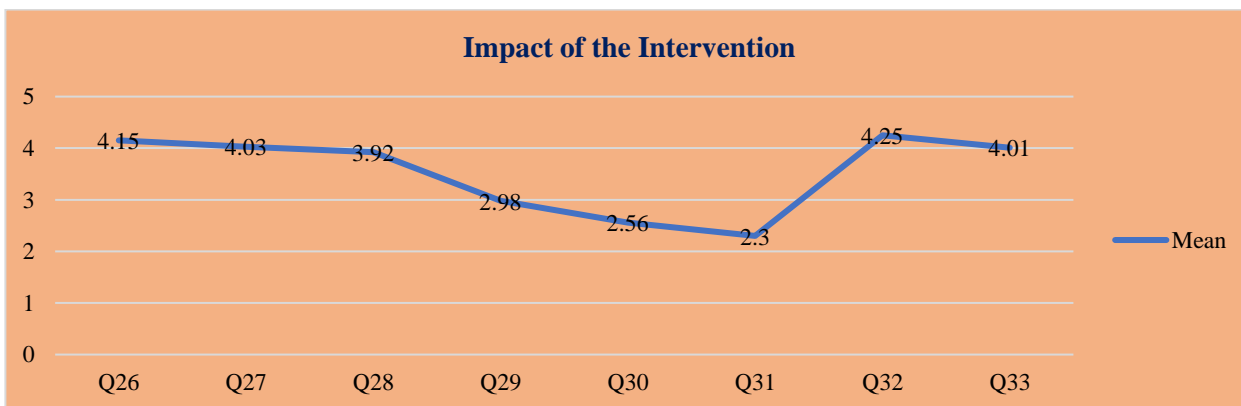


Figure 19: Impact of the Intervention

The beneficiaries have indicated that the construction of the road has significantly improved connectivity between villages and nearby areas, receiving an average mean score of 4.15. They believe that this improvement will facilitate the smooth transportation of goods and services, scoring it with an average mean of 4.03. The beneficiaries, particularly school and college-going individuals, find these measures highly beneficial, with an average mean score of 3.92. They also acknowledge the importance of the road during the rainy season as a safe mode of transport, with an average mean score of 2.98. While a moderate portion of beneficiaries believe the effective drainage system will reduce household losses due to flooding and protect the road from damage (average mean score of 2.56), another moderate share believes it helps in reducing the transmission of infectious diseases (average mean score of 2.30). The beneficiaries are aware of the investment made by MCL in constructing roads, drains, and culverts, scoring it with an average mean of 4.25. Furthermore, they appreciate MCL, Burla, as a responsible corporate citizen, with an average mean score of 4.01.

Sustainability

	Responses	Mean Score
Q34	Periodic repair and maintenance of road, drains and culverts are to be carried out for effective use of the beneficiaries.	2.35
Q35	Government/local administration will take the ownership for timely repair and maintenance of roads and drainage system.	3.52
Q36	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	2.11

Table 14: Sustainability of the Intervention

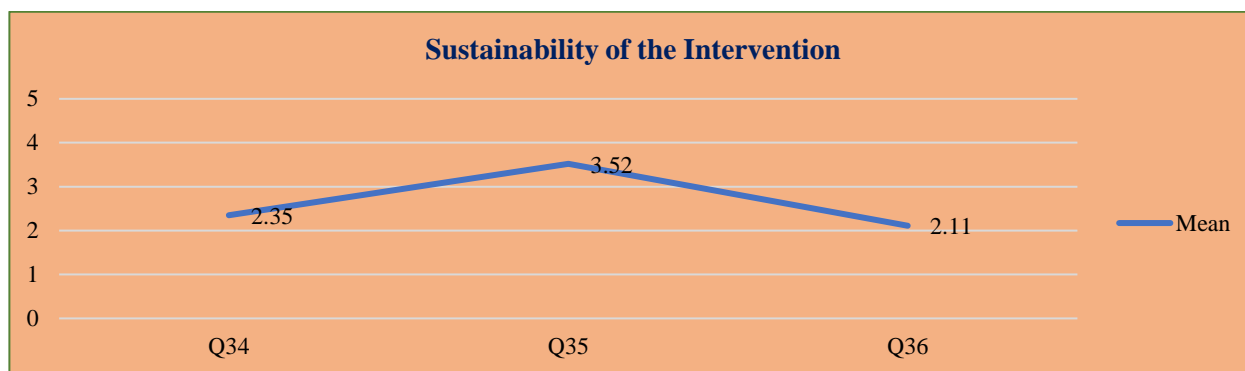


Figure 20: Sustainability of the Intervention

Beneficiaries are concerned about the repair and maintenance of road and culvert with average response score of 2.35. A large majority of beneficiaries supported that there is a need for financial support for timely repair and maintenance of roads and drainage systems by the Government or local administration with an average mean score of 3.52. From the survey it is found that the actual beneficiaries of the interventions are not fully aware about the long-term benefits with average mean score of 2.11.

8.2 Intervention: Construction and Renovation of Roads

The construction and renovation of roads involve the creation of new roadways or the improvement of existing ones to meet the growing transportation needs. This process includes activities such as land preparation, excavation, laying foundations, pavement installation, and adding necessary signage and markings. Renovation may involve resurfacing, widening, or upgrading the infrastructure to enhance traffic flow, safety, and overall infrastructure quality.

Objective of this Intervention

Followings are the important objective of this intervention:

- To improve infrastructure and transportation network
- To enhance road safety and reduce accidents
- To optimize traffic flow and reduce congestion
- To increase accessibility and connectivity between communities
- To ensure durability and reduce maintenance needs
- To stimulate economic development and market access

Research Methodology

This study collected and analyzed data using qualitative and quantitative methods. Surveys, interviews, direct observation, and concentrated group discussions collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with MCL's CSR coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data.

Phase I: Sampling Procedure

The local communities, MCL’s CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique was used for the study.

Phase II: Determination of Sample Size

By using previously used formula for sample size determination we have collected the responses. Under this intervention, approximately 1152 samples are collected relating to four CSR interventions. The opinion survey of the beneficiaries was carried out by deploying field investigators under the supervision of Principal Investigator and Co-Principal Investigator. The primary concern was to ensure quality information through well designed schedule, structured interviews, and focused group discussions with the local people.

8.2.1 Construction of WBM with BM road from Kumunda village Panchayat office via Tentulisahi to Purunapanisahi of Kumunda village near Hingula OCP, HA



Display Board Regarding Intervention at Kumunda



Interaction with the beneficiaries of Kumunda

Details about this Intervention

Project name	Construction of WBM with BM road from Kumunda village Panchayat office via Tentulisahi to Purunapanisahi of Kumunda village near Hingula OCP, HA
Cost of the Intervention	Rs. 105.03 Lakhs
Location (District, State)	Kumunda and Purnapani, Angul
Number of beneficiaries	5000 surrounding villagers
Project Status	Completed
Year of Commencement	2018-19
Year of Completion	2018-19

Table 17: Details about this Intervention

Type of Road before Extension of Intervention

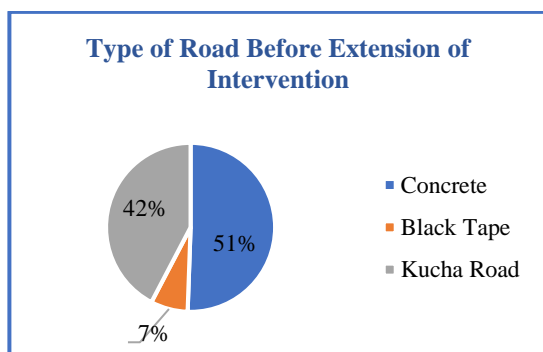


Figure 21: Type of Road before Extension of Intervention

Out of the total respondents, a mere 19 individuals, constituting a mere 7% of the sample, reported the existence of a black tape road prior to the implementation of the intervention. According to the respondents, the prevalence of concrete roads (51%) and kucha roads (42%) was reported to be significantly high.

Uses of Road for the Beneficiaries

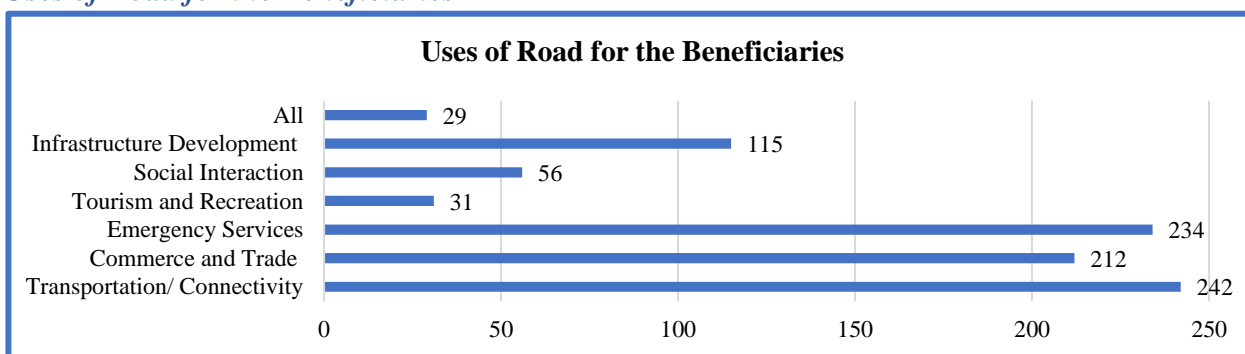


Figure 22: Uses of Road for the Beneficiaries

Most beneficiaries (97% or 242) recognize the primary purpose of the road as enhancing connectivity and transportation. A significant number of respondents (85% or 212) also acknowledge the road's importance in facilitating smooth trade and commerce. Moreover, a considerable number of people (94% or 234) understand the role of a well-constructed road in emergency situations. Additionally, the respondents agreed that the road contributes to infrastructure development (46% or 115), social interaction (22% or 56), and tourism (12% or 31). Notably, 29 (11%) individuals agreed that the road serves all the mentioned purposes.

Status of Road before Extension of CSR Intervention

	Responses	Mean Score
Q1	Village Road is relatively narrow and an obstacle to communication.	4.52
Q2	The road was in a bad shape, which is causing minor accidents.	3.94
Q3	There is a need for widening of the road on both sides is quite helpful for the local population.	4.06
Q4	Earlier it was evidenced that no timely repair or maintenance of the road.	4.26

Table 15: Status of Road before Extension of CSR Intervention

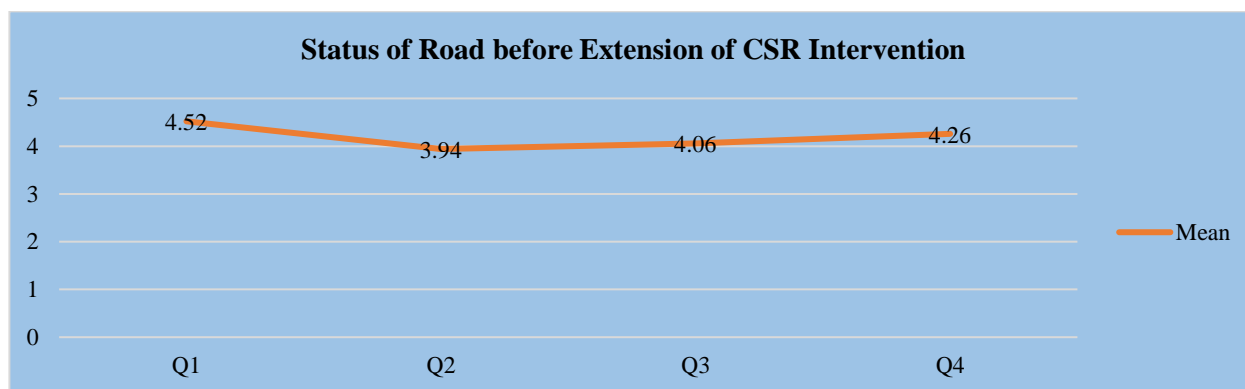


Figure 23: Status of Road and Drainage System before Extension of CSR Intervention

With an average mean score of 4.52, the beneficiaries indicated that the road's narrowness impedes communication. With an average mean score of 3.94, a vast majority of beneficiaries claimed that poorly designed roads previously caused minor accidents. With an average mean score of 4.06, it was determined that the road needed to be widened on both sides for the local population. With an average mean score of 4.26, most beneficiaries claimed that there was no timely repair or maintenance of the road.

Relevance

	Responses	Mean Score
Q5	Focus on construction and maintenance of roads is based on the basic need of the local people as realized by MCL.	4.02
Q6	Roads are constructed with good quality and standards (bituminous and concrete).	4.38

Q7	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.12
Q8	Repairing and maintenance of roads is required for further strengthening in order to extend better communication facility.	4.56
Q9	The ultimate goal of construction of road is to strengthen the public transportation system.	4.22
Q10	The roads are properly constructed in consultation with the representatives of local government.	4.10
Q11	MCL's CSR policy is also focusing on rural development system through construction and repairing of roads.	4.14

Table 16: Relevance of the Intervention

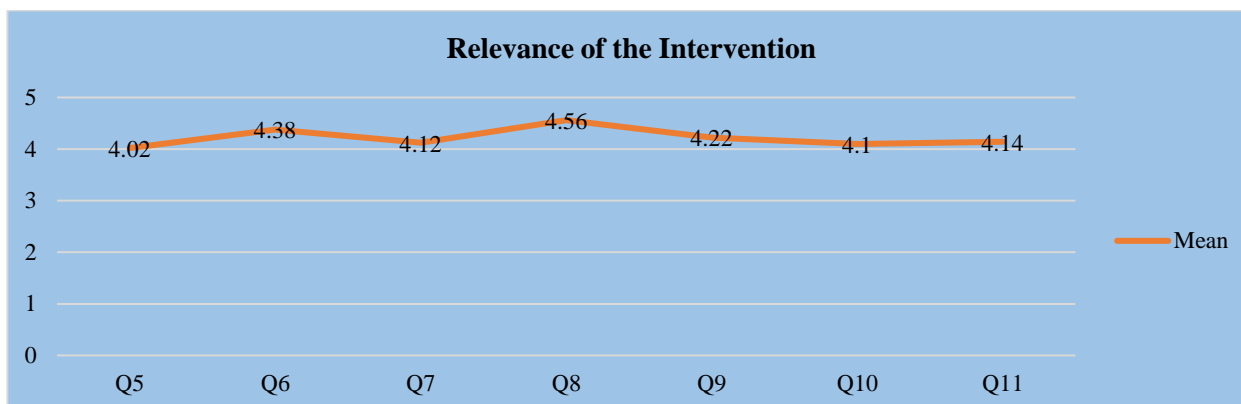


Figure 24: Relevance of the Intervention

As per the beneficiaries, MCL acknowledged the construction and maintenance of roads as a fundamental necessity for local communities, scoring an average mean of 4.02. They praised the high quality and adherence to standards of the constructed roads, with an average mean score of 4.38. Respondents highlighted the ongoing demand for road construction and repairs to ensure smooth transportation, scoring it at an average mean of 4.12. They emphasized the importance of road repairs for stronger communication facilities, scoring it at an average mean of 4.56. A significant majority believed that road construction aimed to enhance public transportation, scoring it at an average mean of 4.22. The respondents recognized the involvement of local government representatives in road construction (average mean score of 4.10) and appreciated MCL's CSR policy's focus on rural development (average mean score of 4.14).

Efficiency

	Responses	Mean Score
Q12	The quality of construction and maintenance of roads are up to the level of satisfaction.	3.85
Q13	The construction work was completed in due course of time.	4.56
Q14	Optimum utilization of fund allocated for this intervention and true value addition for rural development work.	4.62
Q15	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.22

Table 17: Efficiency of the Intervention

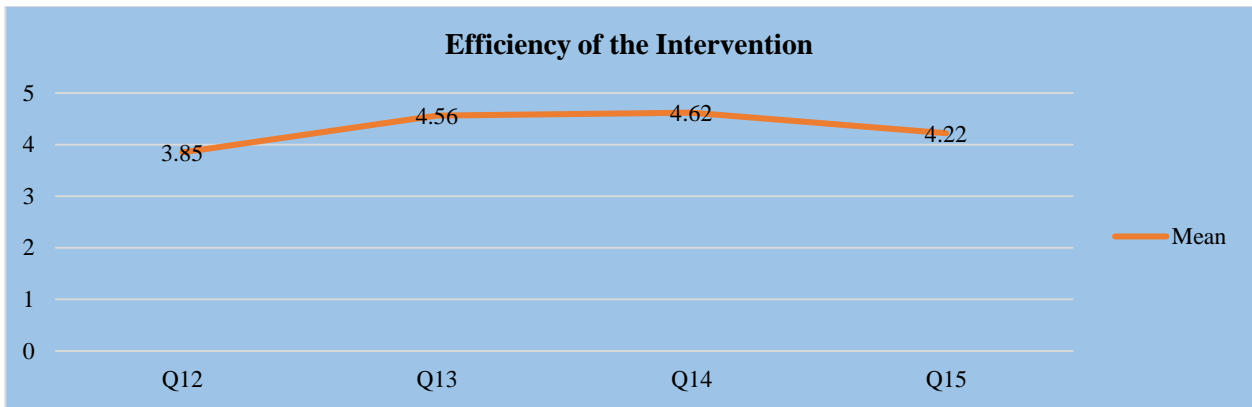


Figure 25: Efficiency of the Intervention

With an average mean score of 4.56, an overwhelming majority of beneficiaries reported that the construction work was completed on schedule. With an average mean score of 3.85, the beneficiaries concur that the quality of the road's construction and maintenance meets their expectations. With an average mean score of 4.62, respondents suggested optimal utilization of funds allocated for this intervention and genuine value addition to the rural development system. As suggested by the beneficiaries, the construction work was completed with an average mean score of 4.22 under the close supervision and direction of the CSR department professionals of MCL.

Effectiveness and Uniqueness

	Responses	Mean Score
Q16	Roads are wide enough for smooth functioning of traffic flow.	4.12
Q17	Beneficiaries/Villagers are happy with the quality of the roads constructed.	4.26
Q18	MCL has successfully commissioned this intervention with active support from the construction firm.	4.36
Q19	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.20
Q20	MCL has focused on awareness about the intervention by placing of display board about the measure extended.	3.90

Table 18: Effectiveness and Uniqueness of the Intervention

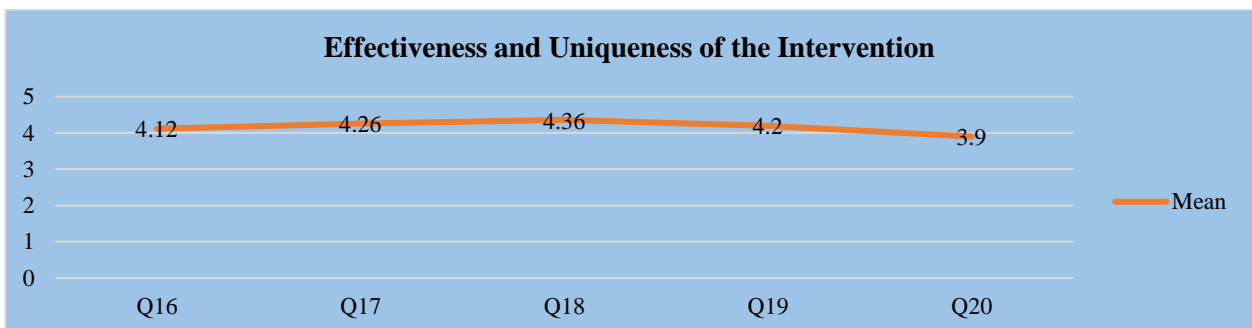


Figure 26: Effectiveness and Uniqueness of the Intervention

With an average mean score of 4.12, the beneficiaries said that the roads are wide enough for efficient traffic movement. With an average mean score of 4.26, it is discovered that the beneficiaries are pleased with the quality of the road's construction. The construction company actively supported MCL in commissioning this intervention, as proposed by the beneficiaries, and the average mean score was 4.36. The project, according to the vast majority of beneficiaries, was finished earlier than expected, and residents in the immediate neighborhood gave the measure an average mean score of 4.20. With an average mean score of 3.90, the respondents claimed that MCL had concentrated on raising awareness of the intervention by putting up a display board announcing the prolonged measure.

Impact

	Responses	Mean Score
Q21	Construction of road has helped to improve connectivity among the villages and nearby areas.	4.33
Q22	This will help in the smooth transportation of goods and services for development of trade and commerce.	4.21
Q23	The measures are quite helpful for school and college going young people.	3.88
Q24	This will play an important role in the rainy season as a safe mode of transport.	3.96
Q25	The beneficiaries are aware about the investment made by MCL for construction of roads.	3.15
Q26	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.98

Table 19: Impact of the Intervention

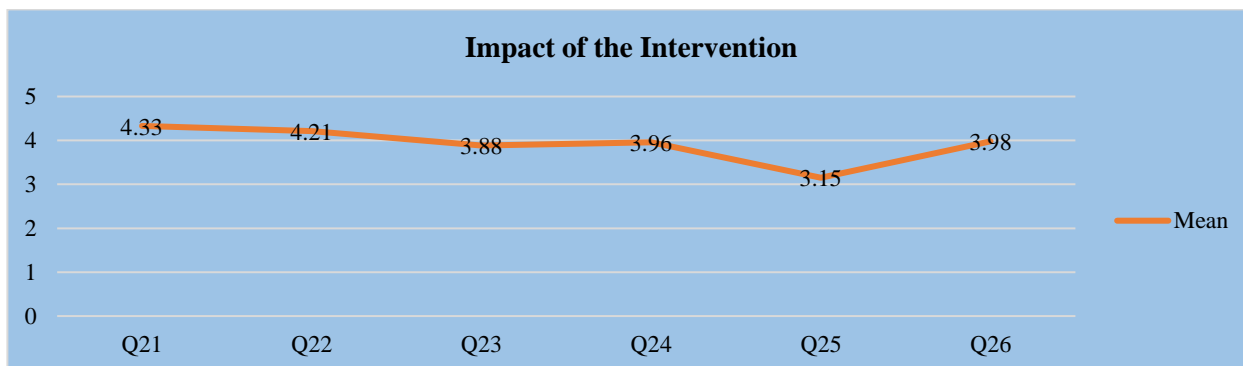


Figure 27: Impact of the Intervention

According to the beneficiaries, the construction of the road has significantly improved connectivity among villages and nearby areas, scoring an average mean of 4.33. They believe this improvement will facilitate smooth transportation of goods and services, with an average mean score of 4.21. The beneficiaries, particularly school and college-going individuals, find these measures highly beneficial, with an average mean score of 3.88. They also recognize the road's importance as a safe mode of transport during the rainy season, scoring it with an average mean of 3.96. The beneficiaries are aware of the investment made by MCL in road construction, scoring it with an average mean of 3.15. Furthermore, they appreciate MCL, Burla, for its efforts as a responsible corporate citizen, with an average mean score of 3.98.

Sustainability

	Responses	Mean Score
Q27	Government/local administration is extending helping hands for the timely repair and maintenance of roads.	4.62
Q28	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	4.16

Table 20: Sustainability of the Intervention

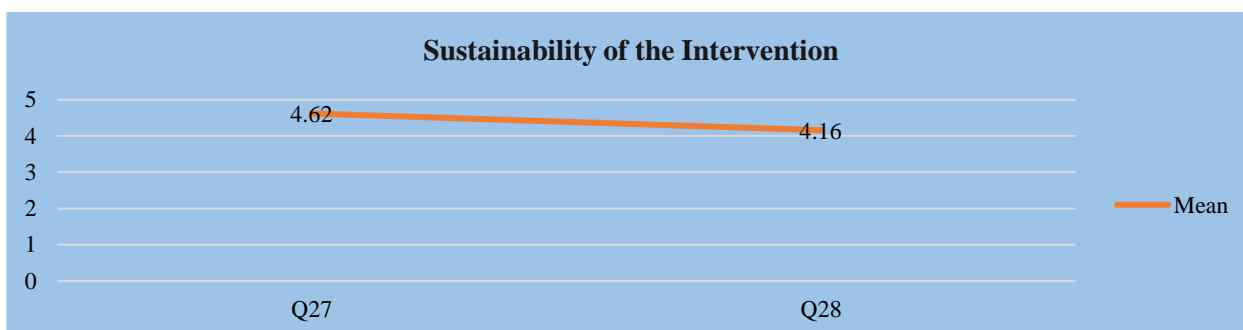


Figure 28: Sustainability of the Intervention

The majority of beneficiaries expressed their support for the provision of assistance by the Government or local administration for the prompt repair and maintenance of roads and drainage systems, as indicated by an average mean score of 4.62. Local authorities are focusing on creating awareness among the beneficiaries regarding the long-term benefits of the intervention (Average mean response score 4.16).

8.2.2 Renovation of Bituminous Road from Dera to Kandhabarni under CSR Work of Bharatpur Area



Display Board Regarding Intervention at Dera to Kandhabarni Road

Current condition of road from Dera to Kandhabarni



Interaction with the beneficiaries of this Intervention

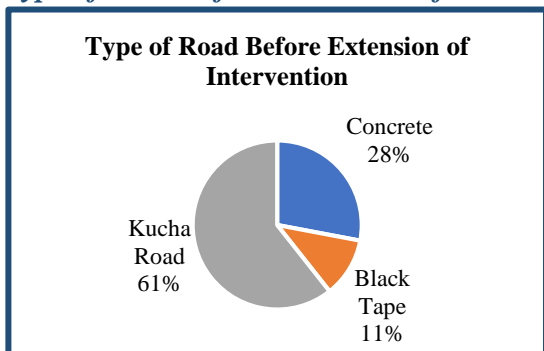


Interaction with the beneficiaries of this Intervention

Details about this Intervention

Project name	Renovation of Bituminous Road from Dera to Kandhabarni under CSR Work of Bharatpur Area
Cost of the Intervention	Rs. 106.05 Lakhs
Location (District, State)	Dera to Kandhabarni, Angul
Number of beneficiaries	Surrounding villages
Project Status	Completed
Year of Commencement	2018-19
Year of Completion	2019-20

Type of Road before Extension of Intervention



Out of the total respondents, a mere 46 individuals, accounting for a mere 11% of the sample, asserted the existence of a black tape road prior to the implementation of the intervention. According to the respondents, a significant proportion of them (28%) reported the presence of concrete roads, while an even larger majority (61%) indicated the prevalence of kucha roads.

Figure 29: Type of Road before Extension of Intervention

Uses of Road for the Beneficiaries

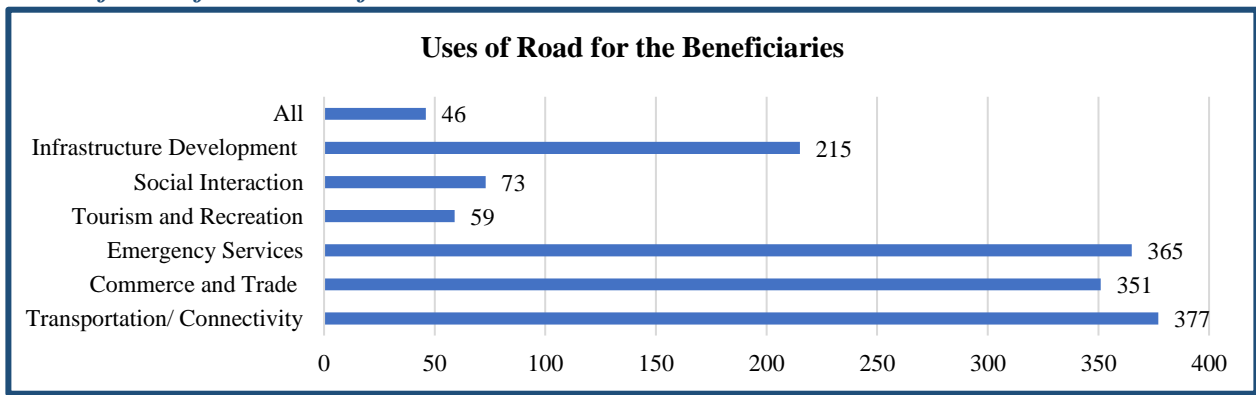


Figure 30: Uses of Road for the Beneficiaries

The majority of beneficiaries acknowledge that the primary purpose of roads is to facilitate connectivity and transportation (94% or 377). A considerable proportion of the participants assert that the road plays a pivotal role in facilitating efficient trade and commerce (88% of 351). The level of comprehension regarding the significance of well-constructed roads in emergency scenarios is notably substantial, with a count of 365 (91%) individuals. Moreover, the participants concurred that the utilization of roads in the context of infrastructure development, social interaction, and tourism amounted to 215 (54%), 73 (18%), and 59 (15%) respectively. A total of 46 (11%) individuals have expressed their agreement regarding the road's ability to fulfill all of the aforementioned objectives.

Status of Road before Extension of CSR Intervention

Responses	Mean Score
Q1 Village Road is relatively narrow and an obstacle to communication.	4.11
Q2 The road was in a bad shape, which is causing minor accidents.	4.64
Q3 There is a need for widening of the road on both sides is quite helpful for the local population.	4.52
Q4 Earlier it was evidenced that no timely repair or maintenance of the road.	4.12

Table 21: Status of Road before Extension of CSR Intervention

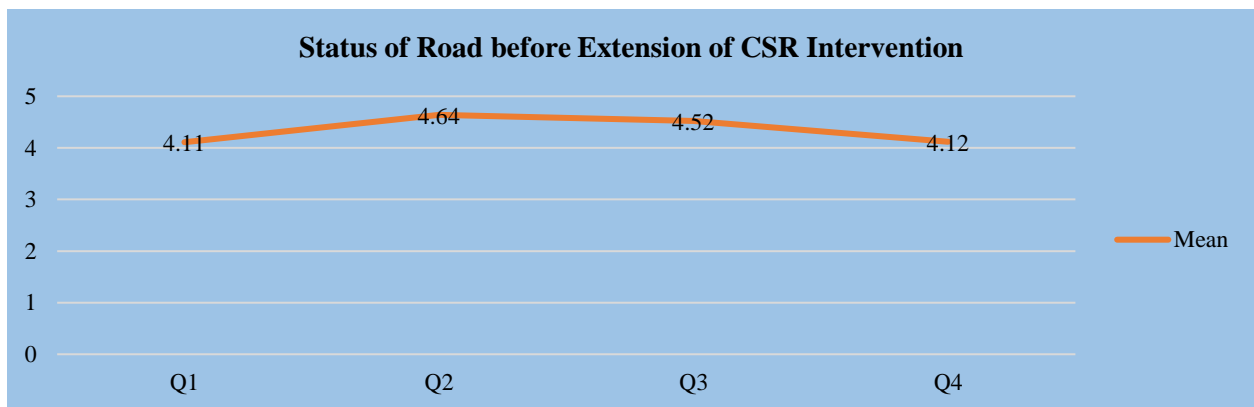


Figure 31: Status of Road and Drainage System before Extension of CSR Intervention

With an average mean score of 4.11, the respondents indicated that the road's narrowness impedes effective communication. With an average mean score of 4.64, a vast majority of beneficiaries claimed that minor accidents used to occur due to poorly designed roads. With an average mean score of 4.52, it was determined that the road needed to be widened on both sides for the local population. With an

average mean score of 4.12, the majority of beneficiaries claimed there was no timely road repair or maintenance.

Relevance

	Responses	Mean Score
Q5	Focus on construction and maintenance of roads is based on the basic need of the local people as realized by MCL.	4.35
Q6	Roads are constructed with good quality and standards (bituminous and concrete).	4.22
Q7	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.42
Q8	Repairing and maintenance of roads is required for further strengthening in order to extend better communication facility.	4.37
Q9	The ultimate goal of construction of road is to strengthen the public transportation system.	4.12
Q10	The roads are properly constructed in consultation with the representatives of local government.	3.94
Q11	MCL's CSR policy is also focusing on rural development system through construction and repairing of roads.	3.98

Table 22: Relevance of the Intervention

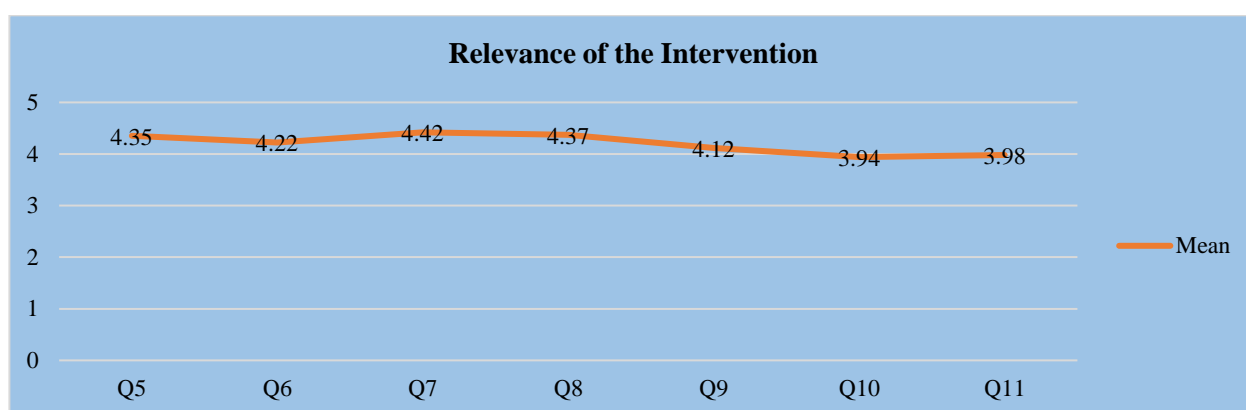


Figure 32: Relevance of the Intervention

With an average mean score of 4.35, beneficiaries stressed that MCL understood that local communities needed roads. They gave the roads a 4.22 average mean for quality and compliance. For easy commuting, recipients rated road construction and repairs 4.42 on average. They scored road repairs 4.37, emphasizing their relevance for greater communication. With a mean score of 4.12, most respondents thought road development was meant to improve public transit. Roads were properly built with local government officials, scoring 3.94 on average. MCL's CSR policy's rural development focus earned a 3.98 mean score from respondents.

Efficiency

	Responses	Mean Score
Q12	The quality of construction and maintenance of roads are up to the level of satisfaction.	3.82
Q13	The construction work was completed in due course of time.	4.16
Q14	Optimum utilization of fund allocated for this intervention and true value addition for rural development work.	4.28
Q15	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.02

Table 23: Efficiency of the Intervention

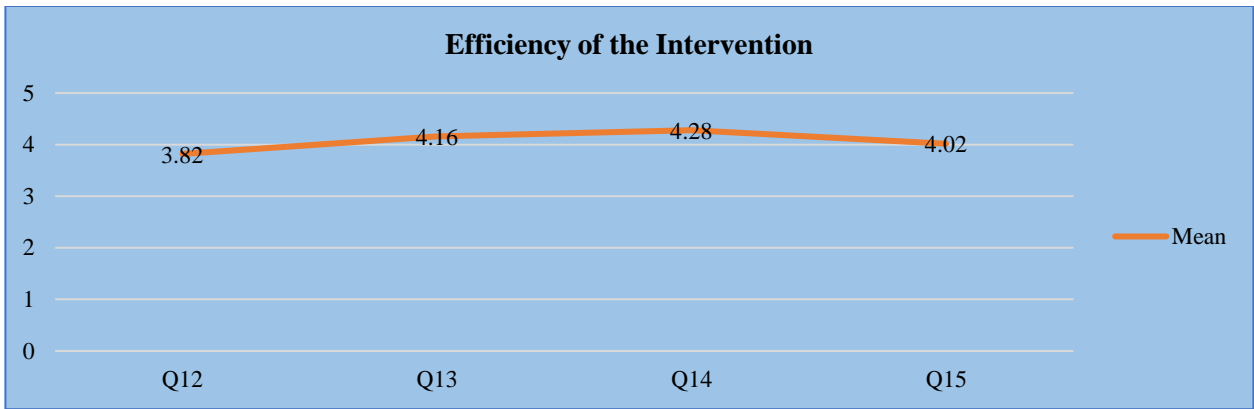


Figure 33: Efficiency of the Intervention

With an average mean score of 4.16, the vast majority of beneficiaries indicated that the construction work was completed on schedule. The beneficiaries agree that the quality of road construction and maintenance is satisfactory, with an average mean score of 3.82. With an average mean score of 4.28, respondents advised an optimal use of the funds given for this intervention and actual value addition to the rural development system. The construction work was done under the direct supervision and monitoring of MCL's CSR dept. personnel, as proposed by the beneficiaries, with an average mean score of 4.02.

Effectiveness and Uniqueness

	Responses	Mean Score
Q16	Roads are wide enough for smooth functioning of traffic flow.	4.42
Q17	Beneficiaries/Villagers are happy with the quality of the roads constructed.	4.06
Q18	MCL has successfully commissioned this intervention with active support from the construction firm.	4.18
Q19	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.10
Q20	MCL has focused on awareness about the intervention by placing of display board about the measure extended.	3.56

Table 24: Effectiveness and Uniqueness of the Intervention

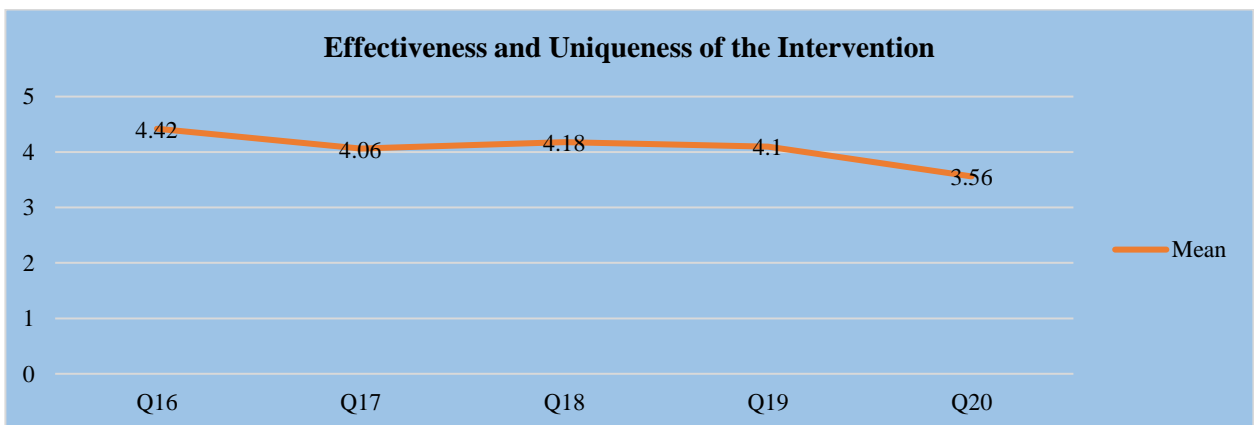


Figure 34: Effectiveness and Uniqueness of the Intervention

Beneficiaries expressed satisfaction with the roads' width, ensuring smooth traffic flow (mean score: 4.42). They also reported being happy with the quality of the constructed roads (mean score: 4.06). The beneficiaries acknowledged MCL's successful commissioning of the project, with active support from the construction firm (mean score: 4.18). A significant majority stated that the project was completed ahead

of schedule, benefiting nearby residents (mean score: 4.10). Respondents noted MCL's efforts to raise awareness by displaying information boards about the intervention (mean score: 3.56).

Impact

	Responses	Mean Score
Q21	Construction of road has helped to improve connectivity among the villages and nearby areas.	4.26
Q22	This will help in the smooth transportation of goods and services for development of trade and commerce.	4.32
Q23	The measures are quite helpful for school and college going young people.	3.86
Q24	This will play an important role in the rainy season as a safe mode of transport.	3.94
Q25	The beneficiaries are aware about the investment made by MCL for construction of roads.	3.40
Q26	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.96

Table 25: Impact of the Intervention

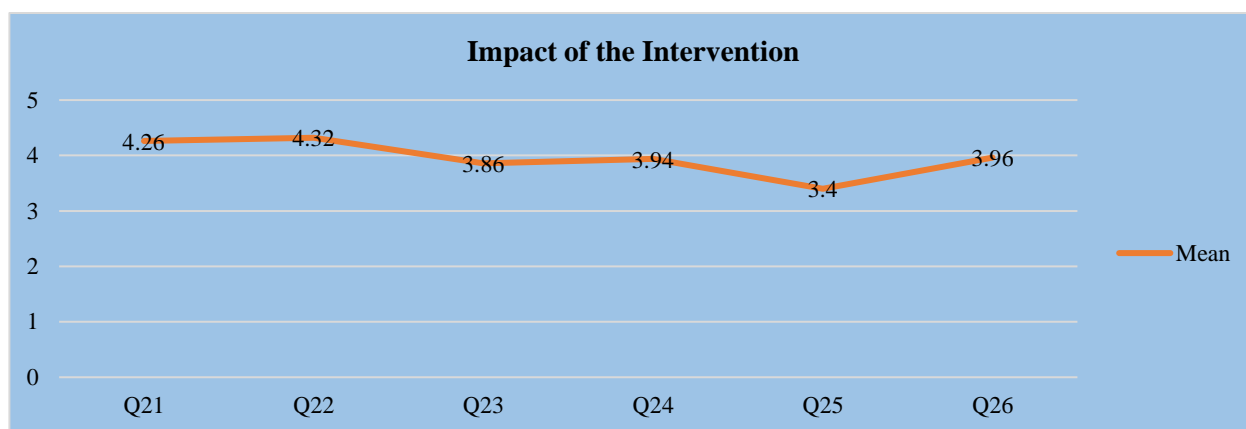


Figure 35: Impact of the Intervention

With an average mean score of 4.26, the benefactors indicated that the construction of the road has improved connectivity between the villages and surrounding areas. With an average mean score of 4.32, this will facilitate the transportation of products and services, as suggested by the beneficiaries. With an average mean score of 3.86, the measures were found to be quite beneficial for school- and college-bound youth. With an average mean score of 3.94, this will play an important role during the rainy season as a secure mode of transportation, as suggested by the beneficiaries. With an average mean score of 3.40, the beneficiaries are aware of MCL's investment in road construction, as indicated by the results. In addition, users have given MCL, Burla an average mean score of 3.96 for their efforts as a responsible corporate citizen.

Sustainability

	Responses	Mean Score
Q27	Government/local administration is extending helping hands for the timely repair and maintenance of roads.	3.25
Q28	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	3.12

Table 26: Sustainability of the Intervention

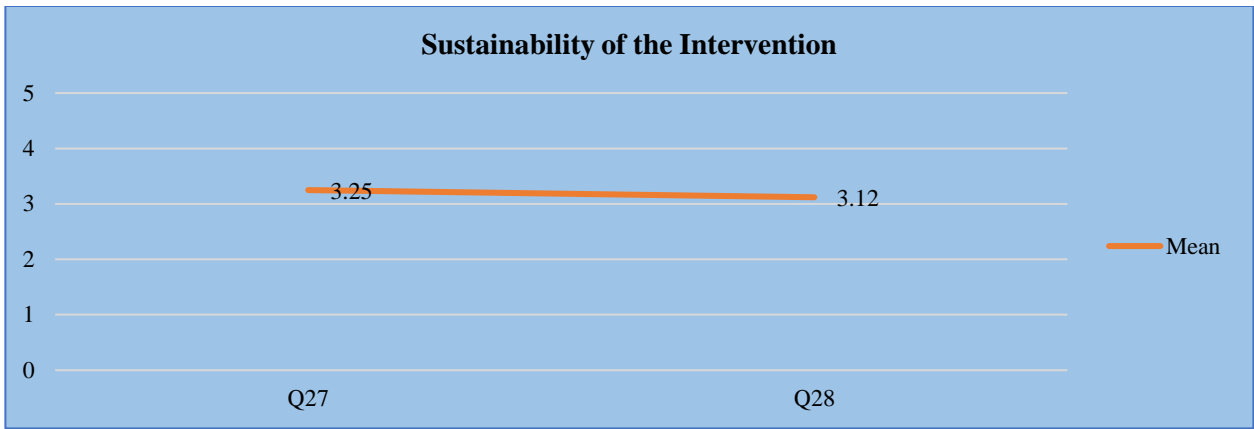


Figure 36: Sustainability of the Intervention

The majority of beneficiaries expressed their support for the provision of assistance by the Government or local administration for the prompt repair and maintenance of roads and drainage systems, as indicated by an average mean score of 3.25. Local authorities are focusing on creating awareness among the beneficiaries regarding the long-term benefits of the intervention (Average mean response score 3.12).

8.2.3 Construction of cement concrete road from Madan Mohan chhak towards Gopinath village in Ward no.:3 and Ward no: 16 of Talcher Municipality under CSR of Talcher Area at Talcher, Angul



Display Board about the Intervention at Madan Mohan chhak



Display Board about the Intervention near Gopinath village



Interaction with the beneficiaries of Ward No. 16



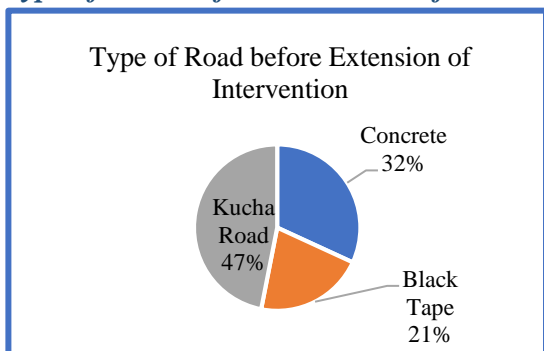
Interaction with the beneficiaries of ward No. 3

Details about this Intervention

Project name	Construction of cement concrete road from Madan Mohan chhak towards Gopinath village in Ward no.:3 and Ward no:16 of Talcher Municipality under CSR of Talcher Area at Talcher, Angul
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Cost of the Intervention	Rs. 310.06 Lakhs
Location (District, State)	Madan Mohan chhak towards Gopinath village, of Talcher Area at Talcher, Angul
Beneficiaries	Ward no.3 and Ward no.16 of Talcher Municipality
Project Status	Completed
Year of Commencement	2014-15
Year of Completion	2014-15

Type of Road before Extension of Intervention



Only 21 percent of those who participated in the survey stated that there was black tape road before the intervention. The percentage of those who stated that there was a concrete road (32%), as well as a kucha road (47%), is very high.

Figure 37: Type of Road before Extension of Intervention

Uses of Road for the Beneficiaries

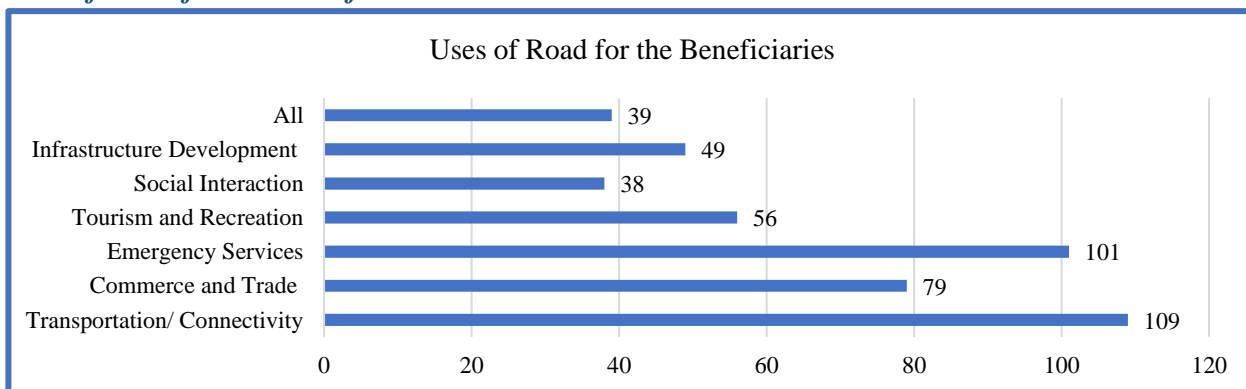


Figure 38: Uses of Road for the Beneficiaries

Most of the beneficiaries are aware of how important roads are for communication and mobility (109 or 91%). A sizable portion of the respondents (79 or 66%) asserts that the road is helpful for efficient trade and commerce. Many people realize the need of decent roads in emergencies 101 (84%). The respondents also concurred that roads are used 49 (41%), 38 (32%), and 56 (47%) respectively for tourism, social engagement, and infrastructure development. There are 39 (32%) individuals concurred that the road fulfills the aforementioned functions.

Status of Road before Extension of CSR Intervention

	Responses	Mean Score
Q1	Village Road is relatively narrow and an obstacle to communication.	4.23
Q2	The road was in a bad shape, which is causing minor accidents.	4.68
Q3	There is a need for widening of the road on both sides is quite helpful for the local population.	4.51
Q4	Earlier it was evidenced that no timely repair or maintenance of the road.	4.42

Table 27: Status of Road before Extension of CSR Intervention

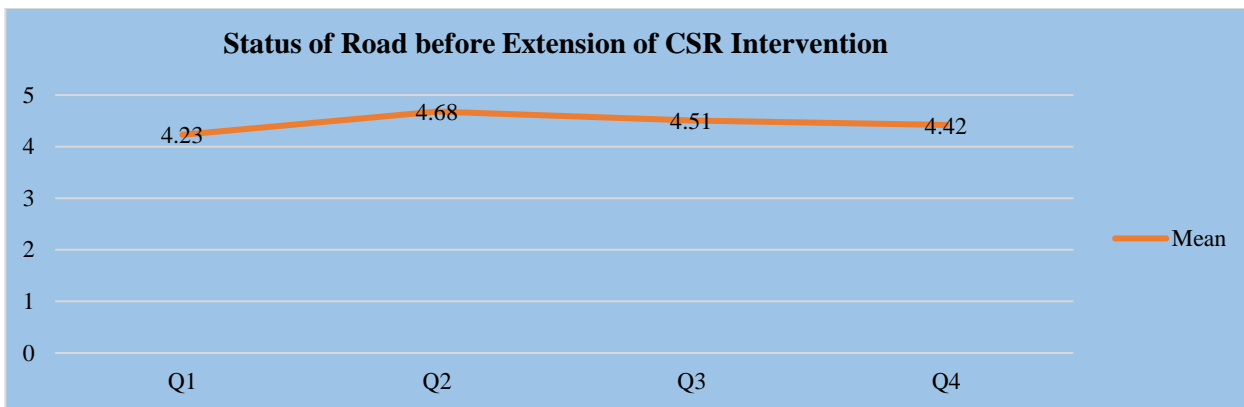


Figure 39: Status of Road before Extension of CSR Intervention

With an average mean score of 4.23, the beneficiaries claimed that the road's narrowness prevents easy communication. With an average mean score of 4.68, the vast majority of beneficiaries indicated that small accidents frequently occurred because of poorly designed roads. With an average mean score of 4.51 for the local population, it was determined that the road needed to be widened on both sides. With an average mean score of 4.42, the majority of beneficiaries alleged that there was no timely road maintenance or repair.

Relevance of the Intervention

	Responses	Mean Score
Q5	Focus on construction and maintenance of roads is based on the basic needs of the local people as realized by MCL.	3.96
Q6	Roads are constructed with good quality and standards (bituminous and concrete).	3.82
Q7	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.12
Q8	Repairing and maintenance of roads is required for further strengthening to extend better communication facilities.	4.18
Q9	The goal of construction of road is to strengthen the public transportation system.	4.26
Q10	The roads are properly constructed in consultation with the representatives of local government.	4.02
Q11	MCL's CSR policy is also focusing on rural development system through construction and repairing of roads.	4.32

Table 28: Relevance of the Intervention

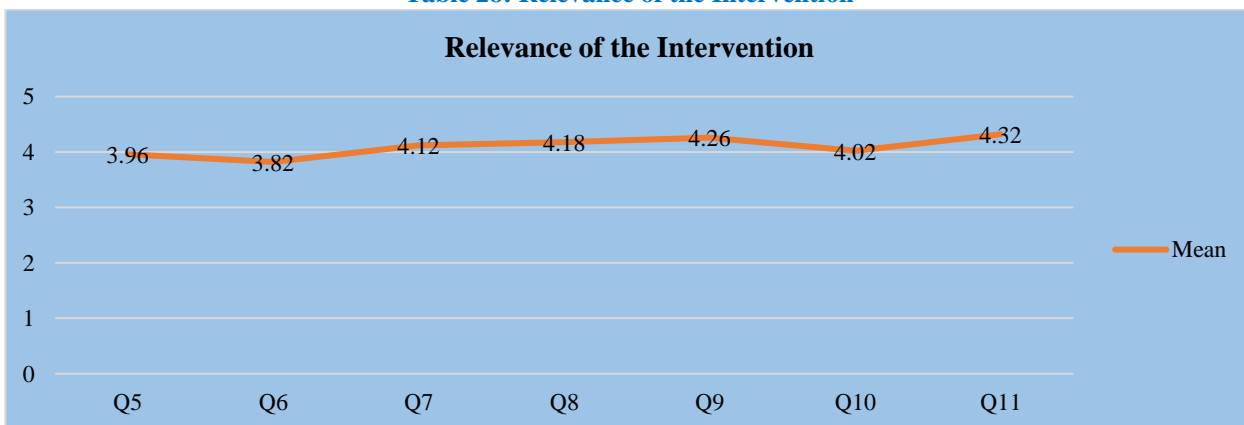


Figure 40: Relevance of the Intervention

Beneficiaries highlighted that MCL understood the importance of constructing and maintaining roads based on the fundamental needs of the local population, scoring it with an average mean of 3.96. They acknowledged the good quality and adherence to standards of the constructed roads, with an average mean score of 3.82. Continuous demand for construction and repair of public roads to ensure smooth

transportation was emphasized, scoring it at an average mean of 4.12. Strengthening the public transportation system through road construction was a widely supported goal, with an average mean score of 4.26. The proper consultation with local government representatives for road construction received an average mean score of 4.02, and the CSR policy focusing on rural development was positively recognized, scoring it with an average mean of 4.32.

Efficiency of the Intervention

	Responses	Mean Score
Q12	The quality of construction and maintenance of roads are up to the level of satisfaction.	3.82
Q13	The construction work was completed in due course of time.	4.28
Q14	Optimum utilization of fund allocated for this intervention and true value addition for rural development work.	4.10
Q15	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.08

Table 29: Efficiency of the Intervention

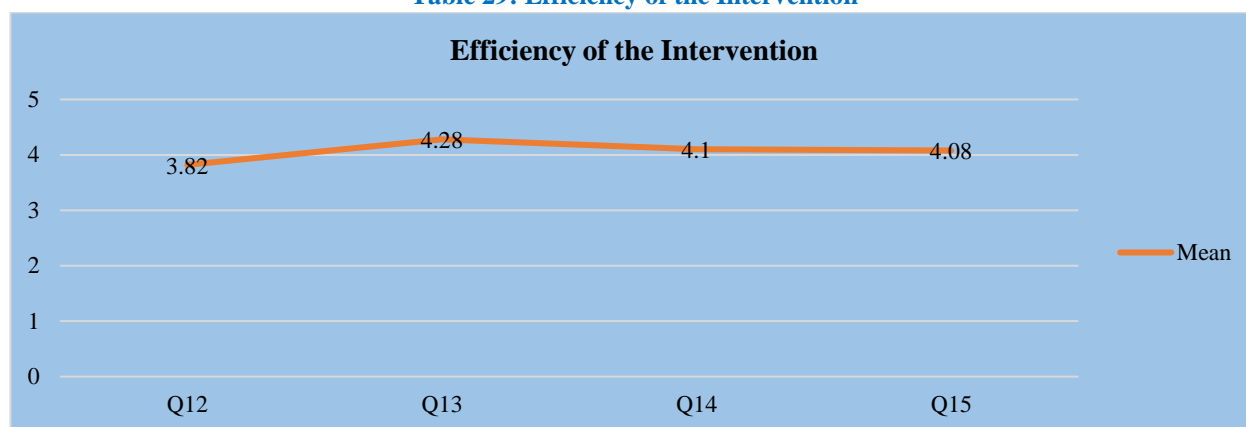


Figure 41: Efficiency of the Intervention

The construction work was completed within the expected timeframe, according to a large majority of beneficiaries, scoring it with an average mean of 4.28. They expressed satisfaction with the quality of construction and road maintenance with an average mean score of 3.82. The respondents suggested that the allocated funds were optimally utilized and contributed to the rural development system, scoring it with an average mean of 4.10. They also noted that the construction work was closely guided and monitored by professionals from MCL's CSR department, receiving an average mean score of 4.08.

Effectiveness and Uniqueness of the Intervention

	Responses	Mean Score
Q16	Roads are wide enough for smooth functioning of traffic flow.	4.02
Q17	Beneficiaries/Villagers are happy with the quality of the roads constructed.	3.82
Q18	MCL has successfully commissioned this intervention with active support from the construction firm.	4.26
Q19	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.32
Q20	MCL has focused on awareness about the intervention by placing of display board about the measure extended.	4.42

Table 30: Effectiveness and Uniqueness of the Intervention

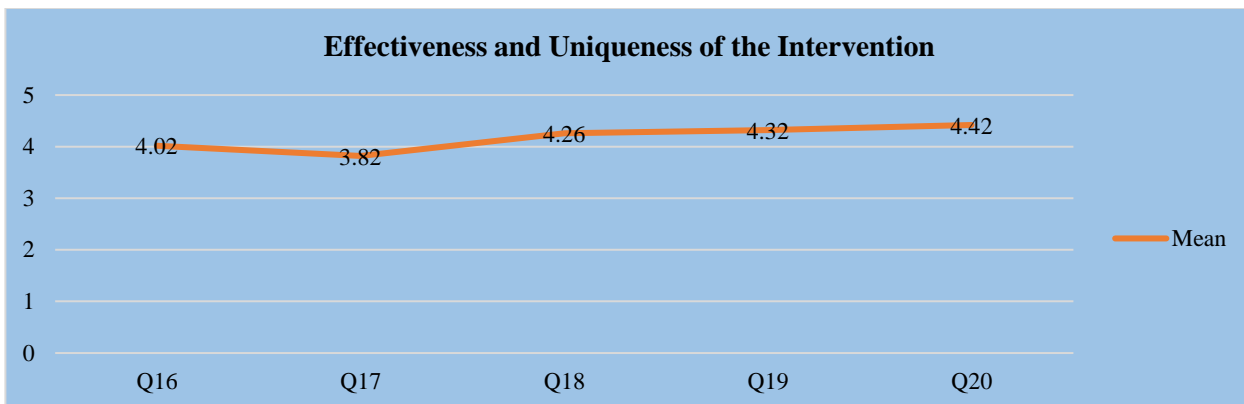


Figure 42: Effectiveness and Uniqueness of the Intervention

According to the beneficiaries, the roads are sufficiently wide for smooth traffic flow, scoring it with an average mean of 4.02. They expressed satisfaction with the quality of the constructed roads, with an average mean score of 3.82. MCL successfully commissioned the intervention with active support from the construction firm, as suggested by the beneficiaries, scoring it with an average mean of 4.26. A significant majority of beneficiaries claimed that the project was completed ahead of schedule, allowing easy access for nearby residents, with an average mean score of 4.32. The respondents noted MCL's efforts to raise awareness about the intervention through display boards, scoring it with an average mean of 4.42.

Impact of the Intervention

	Responses	Mean Score
Q21	Construction of roads has helped to improve connectivity among the villages and nearby areas.	4.30
Q22	This will help in the smooth transportation of goods and services for development of trade and commerce.	4.24
Q23	The measures are quite helpful for school and college going young people.	3.92
Q24	This will play an important role in the rainy season as a safe mode of transport.	4.02
Q25	The beneficiaries are aware about the investment made by MCL for construction of roads.	4.12
Q26	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.31

Table 31: Impact of the Intervention

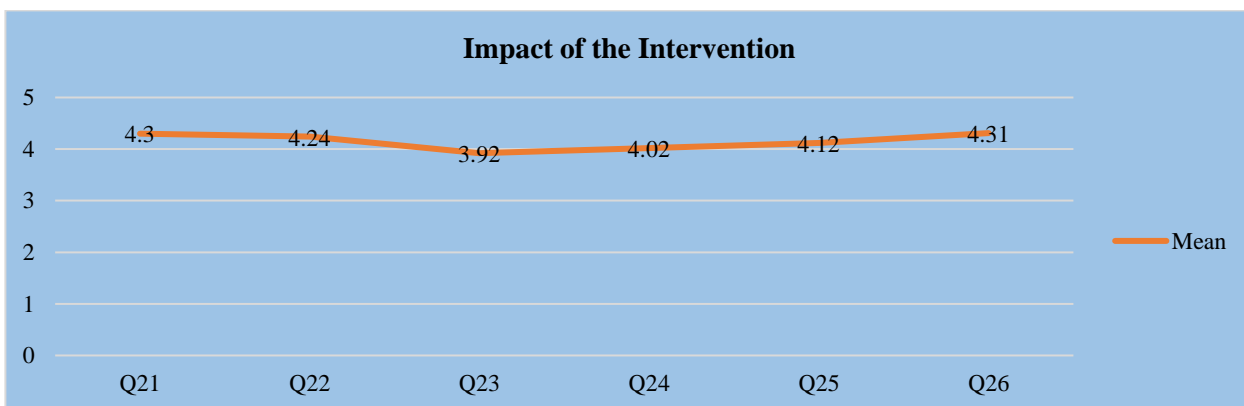


Figure 43: Impact of the Intervention

The beneficiaries have suggested that the construction of roads has significantly improved connectivity among villages and nearby areas, with an average mean score of 4.30. They believe this improvement will facilitate smooth transportation of goods and services, scoring it with an average mean of 4.20. School

and college-going individuals find these measures highly beneficial, with an average mean score of 3.92. They also recognize the importance of the roads as a safe mode of transport during the rainy season, scoring it with an average mean of 4.02. The beneficiaries are aware of the investment made by MCL in road construction, scoring it with an average mean of 4.12. Furthermore, they appreciate the efforts of MCL, Burla, as a responsible corporate citizen, with an average mean score of 4.31.

Sustainability of the Intervention

	Responses	Mean Score
Q27	Government/local administration is extending helping hands for the timely repair and maintenance of roads.	4.42
Q28	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	4.48

Table 32: Sustainability of the Intervention

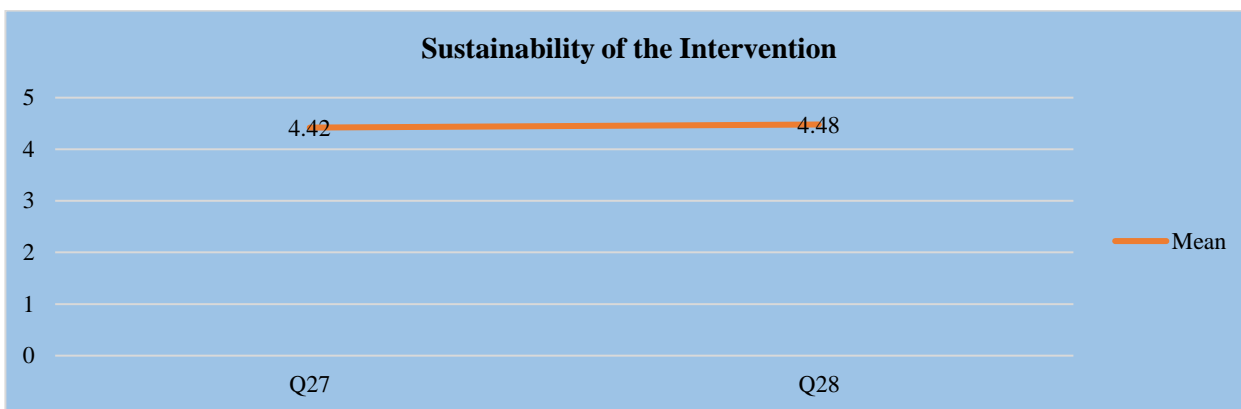


Figure 44: Sustainability of the Intervention

The majority of beneficiaries expressed their support for the provision of assistance by the Government or local administration for the prompt repair and maintenance of roads and drainage systems, as indicated by an average mean score of 4.42. Local authorities are focusing on creating awareness among the beneficiaries regarding the long-term benefits of the intervention (Average mean response score 4.48).

8.2.4 Black topping of road from Radharamanpur village to Jillindachhakand Arakhapal to Biraramchanderpur under CSR scheme of BBSR OCP, JA





Current Condition the Intervention at Intervention Site

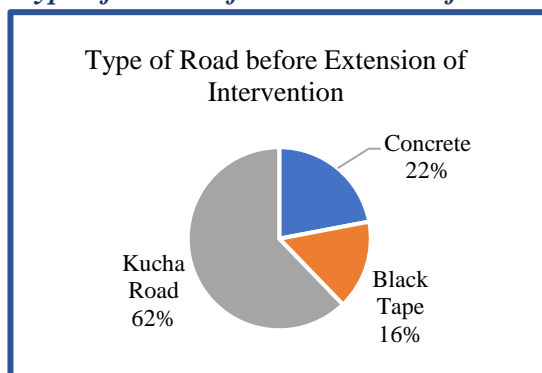


Interaction with the beneficiaries at Biraramchanderpur

Details about this Intervention

Project name	Black topping of road from Radharamanpur village to JillindachhakArakhapal to Biraramchanderpur under CSR scheme of BBSR OCP, JA
Cost of the Intervention	Rs. 210.13 Lakhs
Location (District, State)	Radharamanpur village to Jillindachhak of Talcher block, Angul Arakhapal to Biraramchanderpur of Talcher block, Angul
Number of beneficiaries	Villagers of Radharamanpur, Jillinda, Arakhapal and Biraramchanderpur of Talcher block, Angul
Project Status	Completed
Year of Commencement	2016-17
Year of Completion	2018-19

Type of Road before Extension of Intervention



A minority of respondents, specifically 58 individuals (16%), reported the presence of a black tape road prior to the intervention. A significant proportion of respondents, accounting for 22%, mentioned the existence of a concrete road, while the majority, comprising 62%, indicated the presence of a kucha road.

Figure 45: Type of Road before Extension of Intervention

Uses of Road for the Beneficiaries

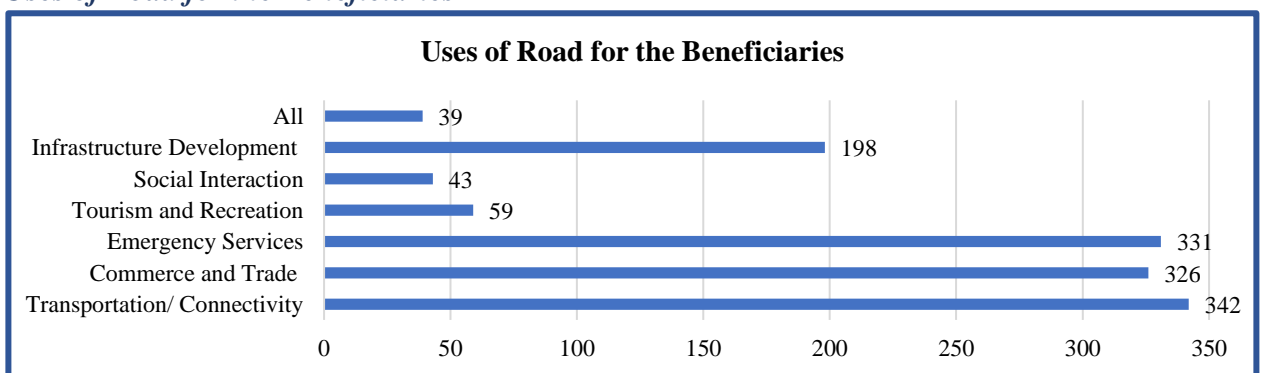


Figure 46: Uses of Road for the Beneficiaries

A significant majority of beneficiaries (342 or 98%) recognize the primary use of roads for connectivity and transportation. A considerable number of respondents (326 or 93%) find roads useful for facilitating smooth trade and commerce. Moreover, a high number of people (331 or 94%) understand the importance of well-constructed roads in emergency situations. Additionally, respondents agreed that roads contribute to infrastructure development (198 or 56%), social interaction (43 or 12%), and tourism (59 or 17%). Among them, 39 (11%) individuals agreed that roads serve all the mentioned purposes.

Status of Road before Extension of CSR Intervention

	Responses	Mean Score
Q1	Village Road is relatively narrow and an obstacle to communication.	4.32
Q2	The road was in a bad shape, which is causing minor accidents.	4.02
Q3	There is a need for widening of the road on both sides is quite helpful for the local population.	4.25
Q4	Earlier it was evidenced that no timely repair or maintenance of the road.	4.28

Table 33: Status of Road before Extension of CSR Intervention

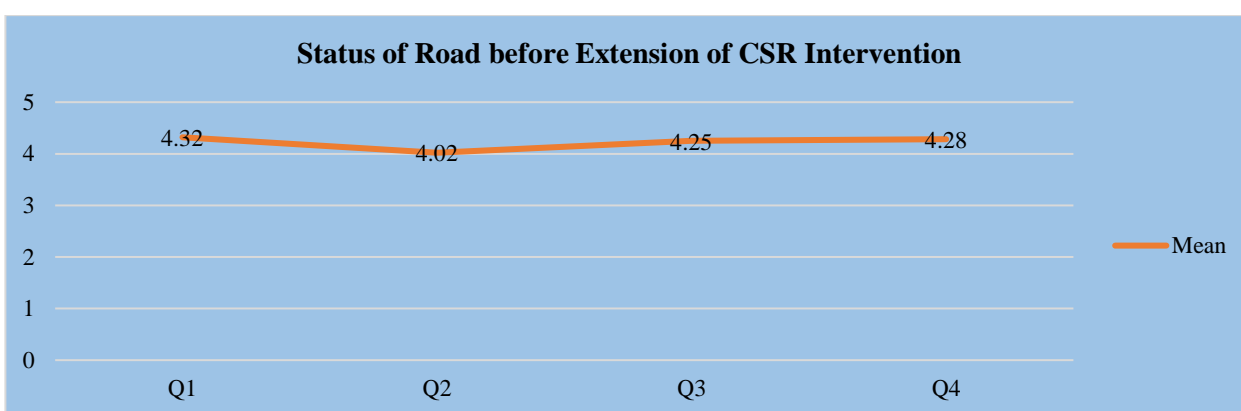


Figure 47: Status of Road and Drainage System before Extension of CSR Intervention

With an average mean score of 4.32, the respondents indicated that the road's narrowness hinders effective communication. With an average mean score of 4.02, a vast majority of beneficiaries claimed that poorly designed roads previously caused minor accidents. With an average mean score of 4.25, it was determined that the road needed to be widened on both sides for the local population. With an average mean score of 4.28, the majority of beneficiaries claimed that there was no timely repair or maintenance of the road.

Relevance

	Responses	Mean Score
Q5	Focus on construction and maintenance of roads is based on the basic needs of the local people as realized by MCL.	4.11
Q6	Roads are constructed with good quality and standards (bituminous and concrete).	4.02
Q7	There is a continuous demand for construction and repairing of public roads for hassle-free transportation.	4.26
Q8	Repairing and maintenance of roads is required for further strengthening to extend better communication facilities.	4.30
Q9	The goal of construction of road is to strengthen the public transportation system.	4.05
Q10	The roads are properly constructed in consultation with the representatives of local government.	3.87
Q11	MCL's CSR policy is also focusing on rural development system through construction and repairing of roads.	3.99

Table 34: Relevance of the Intervention

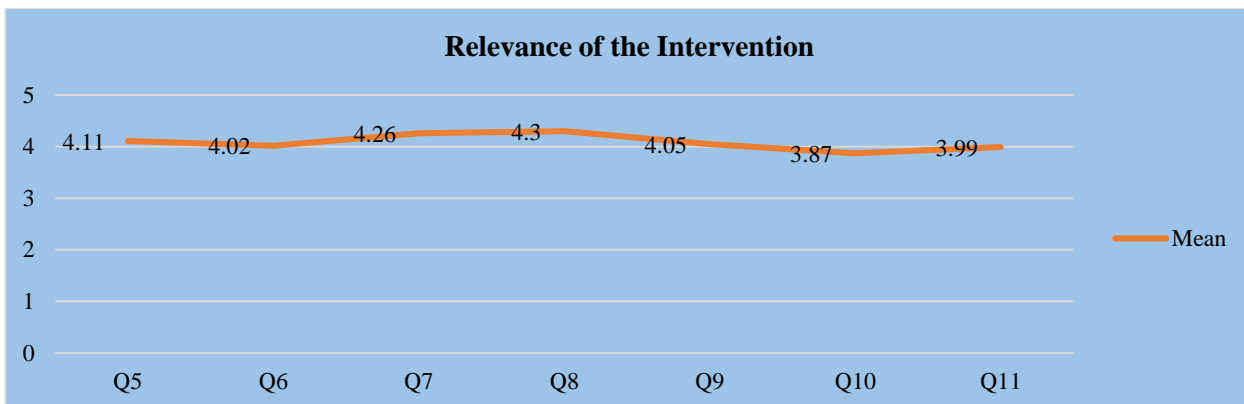


Figure 48: Relevance of the Intervention

With a mean score of 4.11, beneficiaries said MCL understood road construction and maintenance is based on local needs. The beneficiaries gave the route a 4.22 mean score for quality and standards. With a mean score of 4.26, beneficiaries demanded public road building and repair for easy commuting. The beneficiaries proposed repairing roads to improve communication with an average mean score of 4.30. With an average mean score of 4.05, many respondents said building roads would improve public transit. With an average mean score of 3.87, local government representatives collaborate to build roadways. Respondents also gave MCL's CSR policy a mean score of 3.99 for focusing on rural development.

Efficiency

	Responses	Mean Score
Q12	The quality of construction and maintenance of roads are up to the level of satisfaction.	3.78
Q13	The construction work was completed in due course of time.	4.12
Q14	Optimum utilization of fund allocated for this intervention and true value addition for rural development work.	4.18
Q15	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.08

Table 35: Efficiency of the Intervention

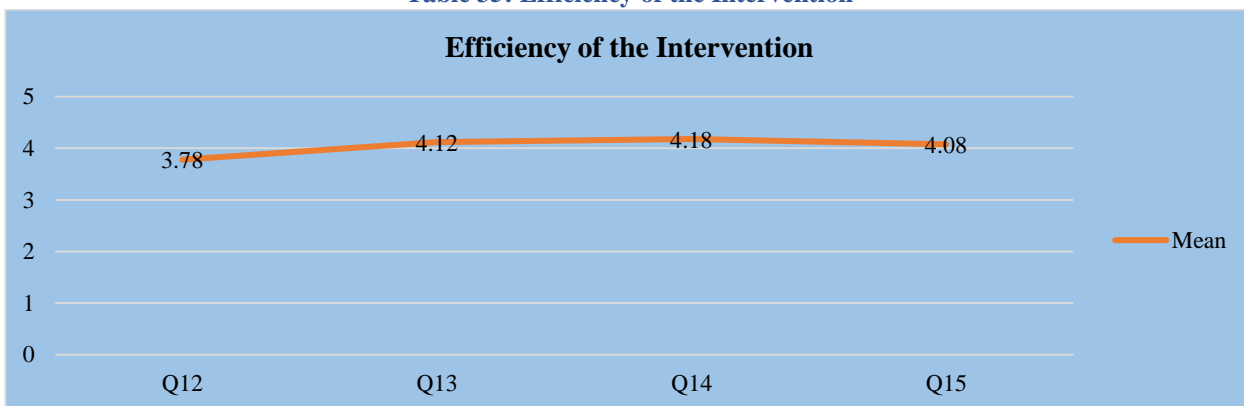


Figure 49: Efficiency of the Intervention

Most beneficiaries reported that the construction work was completed within the expected timeframe, as indicated by an average mean score of 4.12. The recipients of the project have reached a consensus that the construction and maintenance of the road meet their expectations, as indicated by an average mean score of 3.78. The participants proposed that the allocated funds be optimally utilized for this intervention, resulting in a significant contribution to the rural development system. This suggestion received an average mean score of 4.18. The construction work was carried out under the supervision and monitoring of professionals from the Corporate Social Responsibility (CSR) department of MCL, as recommended by the beneficiaries. The average mean score obtained for the project was 4.08.

Effectiveness and Uniqueness

	Responses	Mean Score
Q16	Roads are wide enough for smooth functioning of traffic flow.	3.86
Q17	Beneficiaries/Villagers are happy with the quality of the roads constructed.	3.74
Q18	MCL has successfully commissioned this intervention with active support from the construction firm.	4.10
Q19	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.22
Q20	MCL has focused on awareness about the intervention by placing of display board about the measure extended.	2.26

Table 36: Effectiveness and Uniqueness of the Intervention

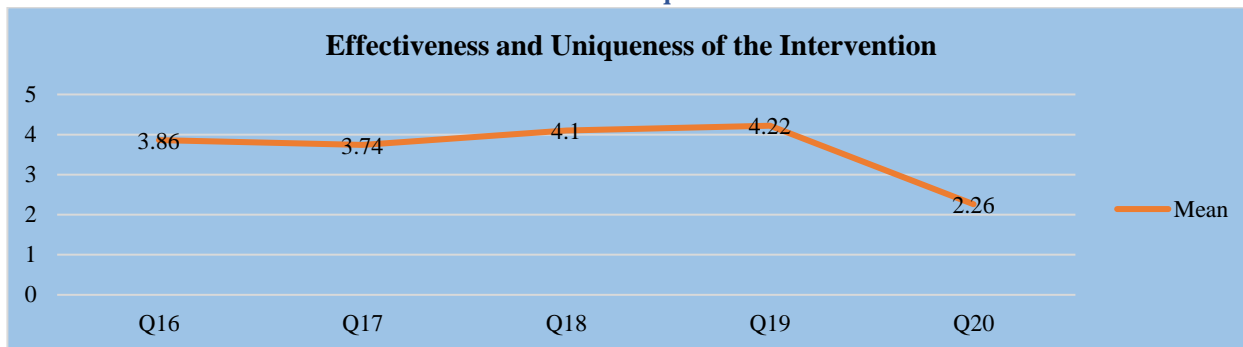


Figure 50: Effectiveness and Uniqueness of the Intervention

With a mean score of 3.86, the beneficiaries believe the roads are adequate for efficient traffic movement. Those who benefited from the construction of the route gave it an average satisfaction rating of 3.74 out of 5. According to the survey results, MCL's intervention, which it commissioned with the help of the building company, was well received by its intended recipients. The majority of those who stood to benefit from the project say it was wrapped up ahead of schedule, and residents of the surrounding communities have used the tool, giving it an average mean score of 4.22. Respondents' mean score of 4.26 indicated that MCL has prioritized raising public understanding of the intervention through the usage of display boards.

Impact

	Responses	Mean Score
Q21	Construction of roads has helped to improve connectivity among the villages and nearby areas.	4.25
Q22	This will help in the smooth transportation of goods and services for development of trade and commerce.	4.10
Q23	The measures are quite helpful for school and college going young people.	3.54
Q24	This will play an important role in the rainy season as a safe mode of transport.	3.78
Q25	The beneficiaries are aware about the investment made by MCL for construction of roads.	2.74
Q26	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.89

Table 37: Impact of the Intervention

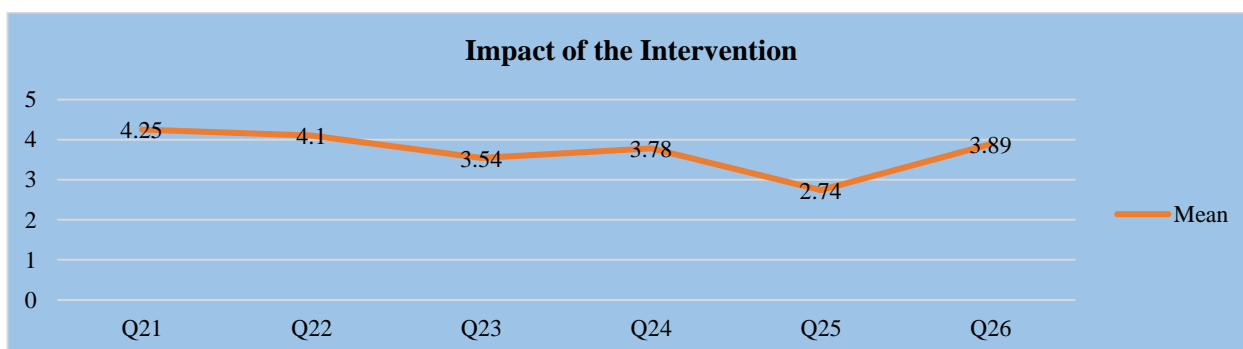


Figure 51: Impact of the Intervention

According to the beneficiaries, the construction of roads has significantly improved connectivity among villages and nearby areas, scoring an average mean of 4.25. They believe this improvement will facilitate the smooth transportation of goods and services, with an average mean score of 4.10. School and college-going individuals find these measures quite helpful, scoring it with an average mean of 3.54. They also recognize the importance of roads as a safe mode of transport during the rainy season; with an average mean score of 3.78. However, the beneficiaries have a lower awareness score regarding the investment made by MCL in road construction, with an average mean of 2.74. Nonetheless, they appreciate MCL, Burla, as a responsible corporate citizen, scoring it with an average mean of 3.89.

Sustainability

	Responses	Mean Score
Q27	Government/local administration is extending helping hands for the timely repair and maintenance of roads.	2.75
Q28	The local authorities emphasizing on awareness among the beneficiaries regarding long term benefits of the intervention.	2.34

Table 38: Sustainability of the Intervention

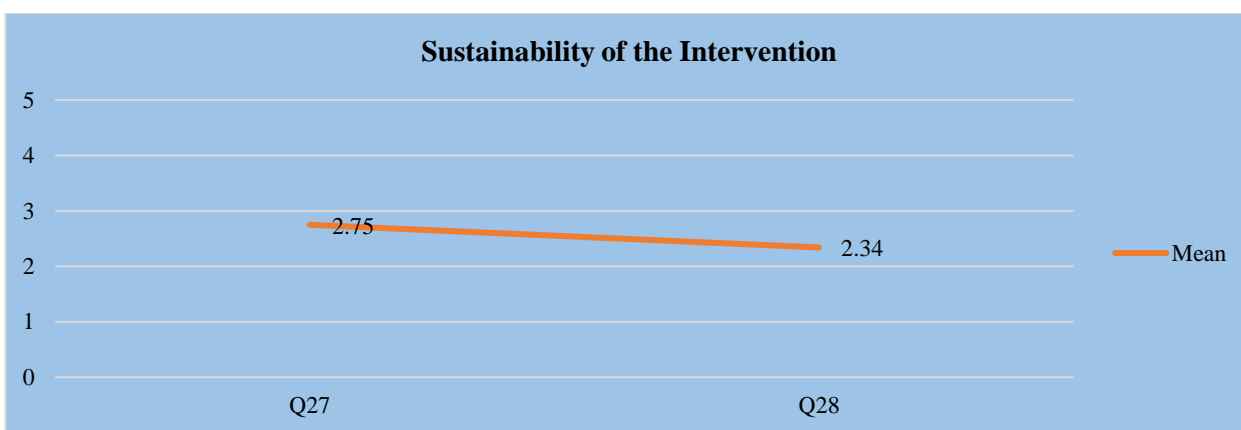


Figure 52: Sustainability of the Intervention

The majority of beneficiaries expressed their concern for the provision of assistance by the Government or local administration for the prompt repair and maintenance of roads and drainage systems, as indicated by an average mean score of 2.75. Local authorities are not focusing on creating awareness among the beneficiaries regarding the long-term benefits of the intervention (Average mean response score 2.34).

8.3 Intervention: Pipe Water Supply Works

Pipe water supply intervention involves targeted actions to enhance the delivery of clean and treated water through a network of pipes. This can include expanding infrastructure, repairing and rehabilitating pipelines, upgrading treatment facilities, implementing leak detection systems, and promoting community engagement. These interventions aim to ensure reliable access to safe water for public health and improve the efficiency and sustainability of the water supply system.

Objective of this Intervention

Followings are the important objective of this intervention:

- To expand access to clean water through pipeline networks
- To improve the reliability and efficiency of water delivery
- To enhance water quality through treatment upgrades
- To minimize water losses by detecting and repairing leaks

- To promote community awareness and engagement in water conservation
- To ensure compliance with water quality standards through monitoring
- To embrace technology for smarter water management and monitoring

Research Methodology

This study collected and analyzed data using qualitative and quantitative methods. Surveys, interviews, direct observation, and concentrated group discussions collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with MCL's CSR coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data.

Phase I: Sampling Procedure

The local communities, MCL's CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique was used for the study.

Phase II: Determination of Sample Size

$$SS = \frac{Z^2 * P * (1-P)}{C^2} \dots\dots\dots (1) \text{ (Determination of sample size for infinite population)}$$

$$SS = \frac{SS}{\left(1 + \frac{(SS-1)}{\text{Population}}\right)} \dots\dots\dots (2) \text{ (Determination of sample size for finite population)}$$

Where SS – sample size, Z – standardized value corresponding to a confidence level (95 per cent level), p- percentage of population picking a choice, and C- confidence interval. If Z= 1.96, p = 50 % = .50, 1-p = .50, c = 5 % = .05, then SS = 383 (for infinite population). Under this intervention, 396 samples were collected.

The opinion survey of the beneficiaries was carried out by deploying field investigators under the supervision of Principal Investigator and Co-Principal Investigator. The primary concern was to ensure quality information through well-designed schedule, structured interviews, and focused group discussions with the local people.

8.3.1 Construction of Seven Nos. PWS Works at Talcher Block.

Details about this Intervention

Sl No.	Name of PWS Schemes	Estimated Cost (In Lakhs)	Remarks (Scope of Work)
01	External PWS to Kankili Scotlandpur	3.54	Sinking of Bore well & Pump house only.
02	External PWS to Gobara GodiSahi Matha	4.24	Sinking of Borewell, Pump house & Submersible pump(1HP) &200 liter PVC Tank.
03	External PWS to Teheranpur	3.54	Sinking of Bore well & Pump house.
04	External PWS to Badasingada Mala Ragudi Ashram	4.24	Sinking of Borewell & Pump house & Submersible pump (1HP) & 200 liter PVC Tank.
05	External PWS to Santhapada (Intake well, Pump House & pipeline)	11.47	Deep Intake well 5 Mtrdia and 16 Mtr depth in River Brahmani & Pump House.
06	Improvement of PWS to Village Dharampur	8.35	Submersible Pump & Switch room, Pipeline External electrical works i/c Transformer etc.
07	RPWS to village Gopalprasad	174.85	Intake well of 5 Mtrdia in River Singada with Pump & Pipeline distribution to Houses & Stand Post Along with online Chlorination.

External PWS to Kankili Scotlandpur



Pipe Water Supply System at Kankili Scotlandpur



Tap water supply System at Kankili Scotlandpur



Interaction with the beneficiaries at Kankili



Interaction with the beneficiaries at Scotlandpur

Sources of Drinking Water before extension of intervention

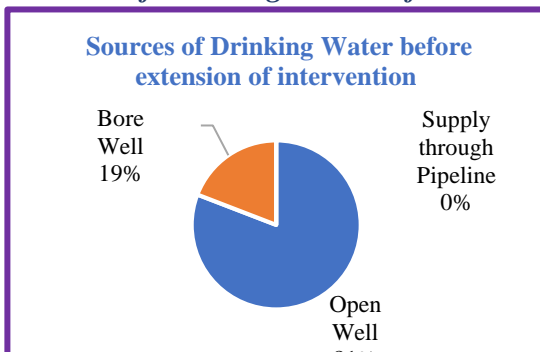


Figure 53: Sources of Drinking Water before extension of intervention

According to the respondents, it was asserted that there had been no provision of pipe water supply prior to the intervention. According to our survey findings, a mere 19% of respondents reported relying on bore wells for their drinking water needs, while a significant majority of 81% indicated their dependence on open wells.

Sources of Non-Drinking Water before extension of intervention

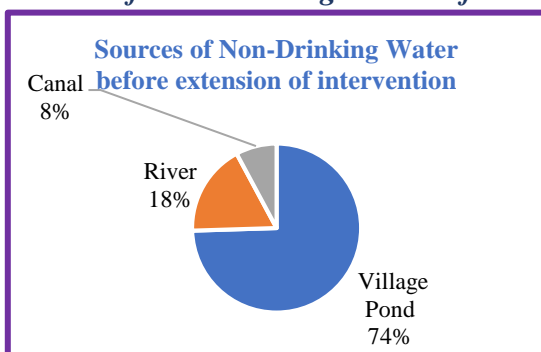


Figure 54: Sources of Non-Drinking Water before extension of intervention

The overwhelming majority of respondents (74%) expressed their reliance on the village pond for non-drinking water needs prior to the implementation of the intervention. According to the survey data, a mere 18% of respondents reported relying on rivers for non-drinking water needs, while a mere 8% indicated their dependence on canals for similar purposes.

Uses of Pipe Water Supply for the Beneficiaries

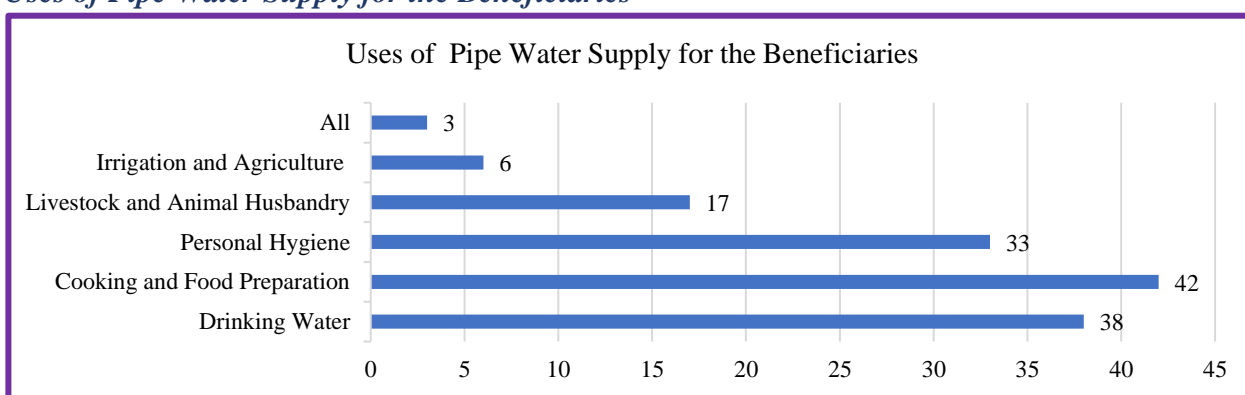


Figure 55: Uses of Pipe Water Supply for the Beneficiaries

The overwhelming majority of beneficiaries, a staggering 42 (93%) in total, have astutely recognized the primary purpose of the supplied water. A notable proportion of the participants (38 or 84%) assert that it serves an indispensable role in food preparation. The utilization of water for personal hygiene, animal husbandry, and agriculture has garnered the support of (33 or 73%) individuals, (17 or 37%) individuals, and (6 or 13%) individuals, respectively. Only three individuals have expressed agreement regarding the pipe water supply's ability to serve all the aforementioned purposes.

Responses from the Beneficiaries

	Responses	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.31
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.22
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.37
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.25
Q5	In the rainy season it is become really difficult to get clean drinking water.	4.28
Q6	These infected water bodies are causing spreading of infectious diseases.	4.02
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.17
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.28
Q9	Water sources like tube well, borewell and pipe water supply are constructed and renovated with good quality and standards.	4.03
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.42
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	3.45
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	3.62
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.20
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.26
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, borewell and pipe water supply are up to the level of satisfaction.	4.28
Q16	The construction and maintenance of facilities are completed in due course of time.	4.35

Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	3.58
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.45
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, borewell and pipe water supply are functional and efficiently providing clean water.	4.08
Q20	These water bodies are properly constructed so that there is no waste of clean water.	3.89
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.45
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.26
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.35
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	2.86
Effectiveness and Uniqueness of the Intervention		
Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	4.25
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.69
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.78
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.57
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	2.98
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.78
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	2.35
Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	2.39
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	2.15
Sustainability of the Intervention		

Table 39: Responses from the Beneficiaries

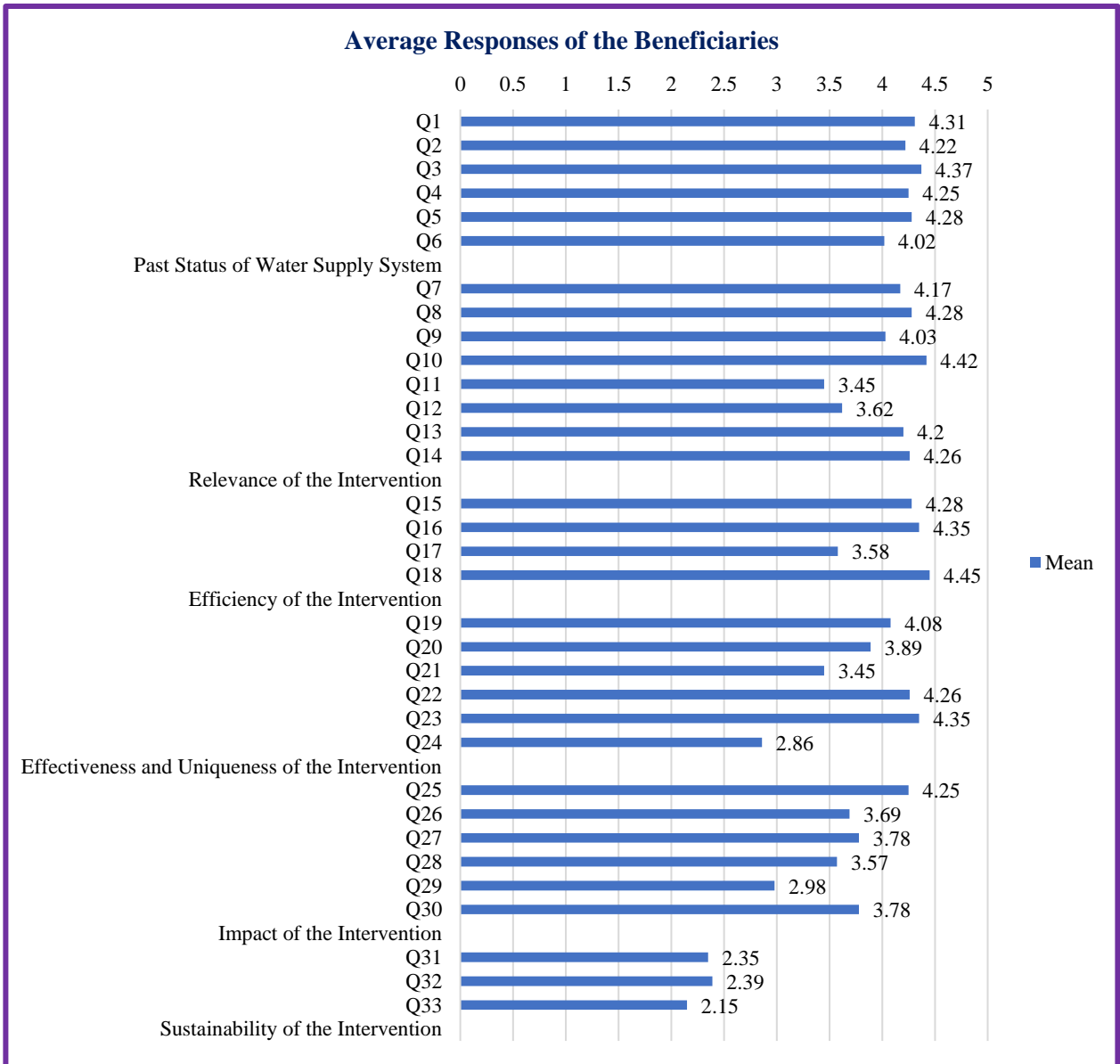


Figure 56: Average Responses of the Beneficiaries

The beneficiaries have provided valuable feedback on the water supply system. They expressed that the quality and quantity of water from existing sources were inadequate and unsafe (mean score: 4.31). Continuous water scarcity in the village necessitated regular water supply (mean score: 4.22). A majority of respondents reported that tube wells and bore wells were in a defunct condition (mean score: 4.37). Renovation and maintenance of water bodies, such as bore wells, tube wells, pipe water supply, and tanker supply in the summer season, were considered essential (mean score: 4.25). Difficulties in accessing clean drinking water during the rainy season were highlighted (mean score: 4.28).

The presence of infected water bodies was associated with the spread of infectious diseases (mean score: 4.02). Respondents acknowledged the long-awaited demand for drinking water supply through pipelines (mean score: 4.17). The beneficiaries recognized the relevance of the intervention, with district administration and MCL effectively addressing the basic need for constructing and maintaining the water supply system (mean score: 4.28). The construction and renovation of water sources were perceived to meet good quality standards (mean score: 4.03). There was a continuous demand for construction and repairs to ensure safe and clean drinking water (mean score: 4.42). The construction and renovation of the

water supply system fulfilled the villagers' need for clean and adequate drinking water (mean score: 3.45). The newly constructed water supply system was considered suitable for providing water throughout the year (mean score: 3.62). The water supply measure was implemented in consultation with local government representatives and beneficiaries (mean score: 4.20). MCL's CSR policy focused on the construction and renovation of water supply measures, gaining appreciation (mean score: 4.26).

The beneficiaries expressed satisfaction with the quality of construction and renovation (mean score: 4.28) and timely completion of facilities (mean score: 4.35). Optimal utilization of allocated funds for true value addition in providing clean and adequate drinking water was suggested (mean score: 3.58). MCL's CSR department professionals closely monitored the construction work (mean score: 4.45). The effectiveness and functionality of newly constructed water bodies were acknowledged (mean score: 4.08), along with minimizing the wastage of clean water (mean score: 3.89). Beneficiaries reported being happy with the quality and quantity of water supplied after maintenance (mean score: 3.45). MCL successfully commissioned the intervention with support from the construction firm (mean score: 4.26), and the project was completed before the scheduled time (mean score: 4.35). Awareness was raised through the placement of display boards about the intervention, which did not have any impact on the beneficiaries (mean score: 2.86).

The construction and renovation of the water supply system significantly contributed to providing clean drinking water in the villages and nearby areas (mean score: 4.25) and reduced water scarcity throughout the year (mean score: 3.69). The supply of clean water was instrumental in eradicating waterborne diseases (mean score: 3.78), meeting households' needs (mean score: 3.57). Awareness about MCL's investment in construction and renovation was reported somehow unsatisfying (mean score: 2.98), and their efforts were appreciated as a responsible corporate citizen (mean score: 3.78). Beneficiaries are concerned about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 2.35. There is very less participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 2.39. It is seen that there is not proper attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 2.15.

External PWS to Gobara GodiSahi Matha



Pipe Water Supply System at Gobara Godi Sahi Matha



Water Supply System at Gobara Godi Sahi Matha



Interaction with beneficiaries' of Gobara Godi Sahi Matha



Interaction with beneficiaries' of Gobara Godi Sahi Matha

Sources of Drinking Water before extension of intervention

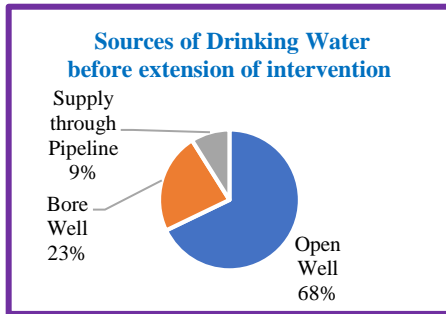


Figure 57: Sources of Drinking Water before extension of intervention

According to the survey results, it was found that 23% of the respondents relied on bore wells, while a majority of 68% relied on open wells for their drinking water needs. A mere 9% of the respondents reported the existence of pipe water supply facilities prior to the intervention.

Sources of Non-Drinking Water before extension of intervention

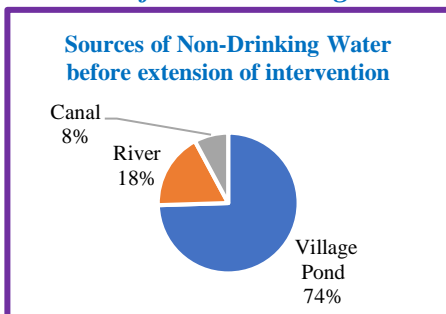


Figure 58: Sources of Non-Drinking Water before extension of intervention

Prior to the intervention, a significant majority of the respondents (74%) reported relying on the village pond for non-potable water needs. According to the survey participants, a mere 18% relied on rivers, while only 8% relied on canals for non-potable water needs.

Uses of Pipe Water Supply for the Beneficiaries

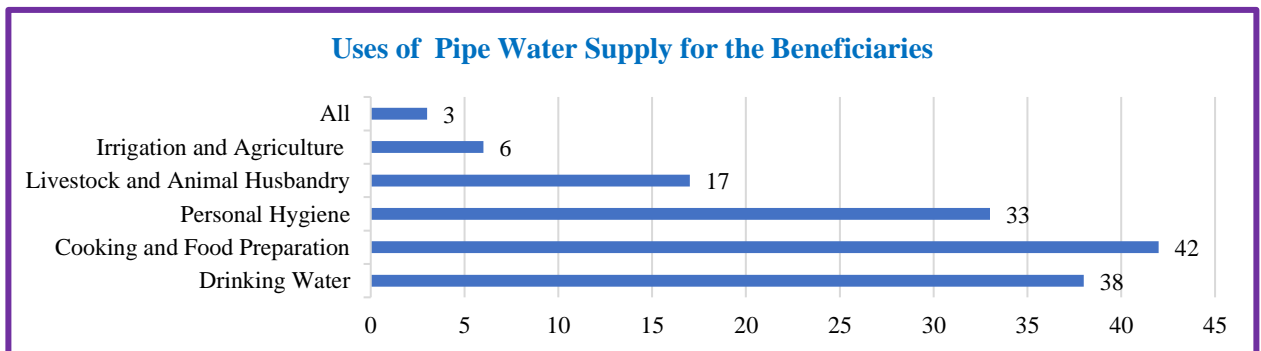


Figure 59: Uses of Pipe Water Supply for the Beneficiaries

A significant proportion of the recipients (42 or 93%) acknowledge the primary utilization of water supply in the context of food preparation. A considerable proportion of the participants (38 or 84%) assert that it possesses utility as potable water. A total of 33 (73%) individuals expressed their agreement with the utilization of water supply for personal hygiene purposes, while 17 (38%) individuals supported its use in animal husbandry, and 6 (13%) individuals advocated for its use in agriculture. Only three individuals have concurred that the piped water supply adequately fulfills all of the aforementioned objectives.

Responses from the Beneficiaries

	Response	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.21
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.45
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.39
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.35
Q5	In the rainy season it is become really difficult to get clean drinking water.	4.32
Q6	These infected water bodies are causing spreading of infectious diseases.	4.10
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.28
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.20
Q9	Water sources like tube well, borewell and pipe water supply are constructed and renovated with good quality and standards.	4.10
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.45
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	3.87
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	3.62
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.29
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.27
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, borewell and pipe water supply are up to the level of satisfaction.	4.20
Q16	The construction and maintenance of facilities are completed in due course of time.	4.39
Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	3.69
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.42
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, borewell and pipe water supply are functional and efficiently providing clean water.	3.98
Q20	These water bodies are properly constructed so that there is no waste of clean water.	3.81
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.56
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.21
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.39
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	2.56
Effectiveness and Uniqueness of the Intervention		

Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	4.12
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.54
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.71
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.59
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	2.91
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.21
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	2.46
Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	2.68
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	2.26

Sustainability of the Intervention

Table 40: Responses from the Beneficiaries

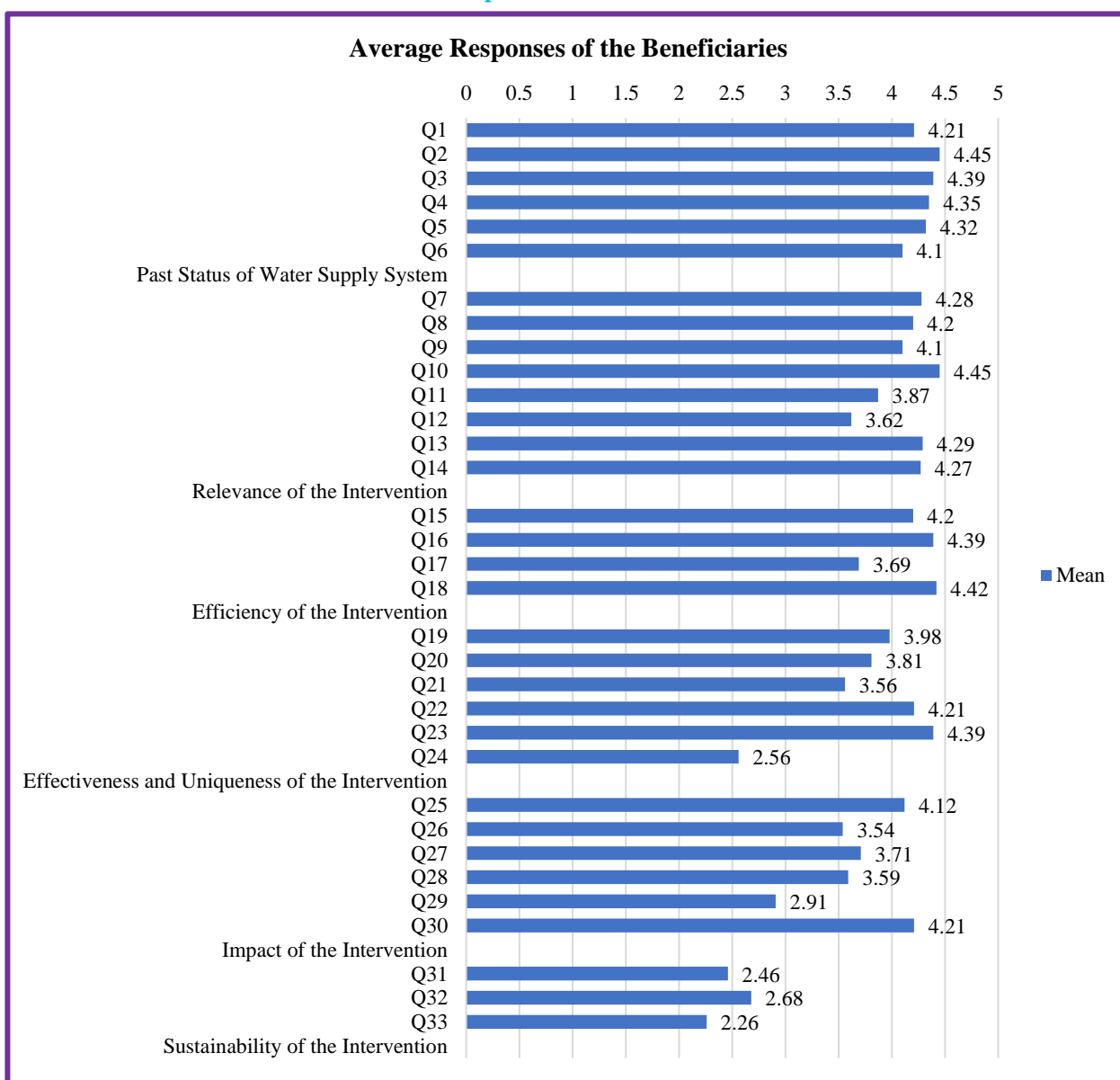


Figure 60: Average Responses of the Beneficiaries

The beneficiaries provided feedback on the past status of the water supply system. They expressed that the quality and quantity of water supplied from existing sources throughout the year were inadequate and unsafe (mean score: 4.21). Continuous water scarcity in the village necessitated regular water supply (mean score: 4.45). Most respondents reported that tube wells and bore wells were in a defunct condition (mean score: 4.39). Renovation and maintenance of water bodies such as bore wells, tube wells, pipe water supply, and water supply through tankers during the summer season were crucial (mean score: 4.35). Difficulties in accessing clean drinking water during the rainy season were noted (mean score: 4.32). The presence of contaminated water bodies was associated with the spread of infectious diseases (mean score: 4.10).

The beneficiaries highlighted the long-awaited genuine demand for drinking water supply through pipelines (mean score: 4.28). They recognized that the construction and maintenance of the water supply system addressed the basic needs of the local people, with the support of the district administration and MCL (mean score: 4.20). Water sources such as tube wells, bore wells, and pipe water supply were constructed and renovated to meet good quality standards (mean score: 4.10). There was a continuous demand for the construction and repair of the water supply system to ensure safe and clean drinking water (mean score: 4.45). The construction and renovation of the water supply system fulfilled the requirement for clean and adequate drinking water (mean score: 3.87).

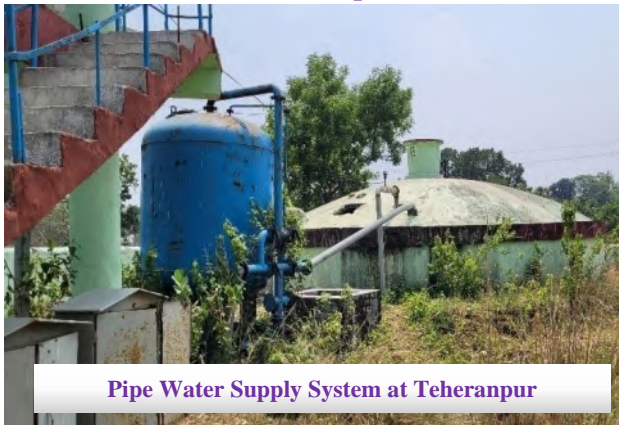
The beneficiaries found the newly constructed water supply system appropriate for receiving an adequate supply of water throughout the year (mean score: 3.62). The water supply measures were implemented in consultation with local government representatives and beneficiaries (mean score: 4.29). MCL's CSR policy gave due attention to the supply of clean drinking water through construction and renovation (mean score: 4.27). The beneficiaries expressed satisfaction with the quality of construction and renovation of water bodies such as tube wells, bore wells, and pipe water supply (mean score: 4.20). The construction and maintenance of facilities were completed within the expected timeframe (mean score: 4.39). Optimal utilization of allocated funds for the intervention and value addition in supplying clean and adequate drinking water was emphasized (mean score: 3.69). The construction work was closely guided and monitored by MCL's CSR department professionals (mean score: 4.42).

The effectiveness and uniqueness of the intervention were observed, with newly constructed water bodies functioning efficiently in providing clean water (mean score: 3.98). The beneficiaries acknowledged that these water bodies were constructed to minimize wastage of clean water (mean score: 3.81). They expressed satisfaction with the quality and quantity of water supplied after maintenance (mean score: 3.56). MCL successfully commissioned the intervention with active support from the construction firm (mean score: 4.21), and the project was completed ahead of schedule, benefiting nearby areas (mean score: 4.39). The placement of display boards about the intervention was mentioned as part of branding and awareness efforts was not placed in appropriate place (mean score: 2.56). The construction and renovation of the water supply system significantly contributed to providing clean drinking water in villages and nearby areas (mean score: 4.21) and reduced water scarcity throughout the year (mean score: 3.54). The supply of clean water was noted as helping to eradicate waterborne diseases (mean score: 3.71).

Respondents indicated that the supply of water through pipelines fulfilled household needs (mean score: 3.59). The beneficiaries were rarely aware of MCL's investment in the construction and renovation of the water supply system (mean score: 2.91) and appreciated MCL as a responsible corporate citizen (mean score: 4.21). Beneficiaries are concerned about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 2.46. There is very less participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is

2.68. It is seen that there is not proper attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 2.26.

External PWS to Teheranpur



Pipe Water Supply System at Teheranpur



Tap Water Supply System at Teheranpur

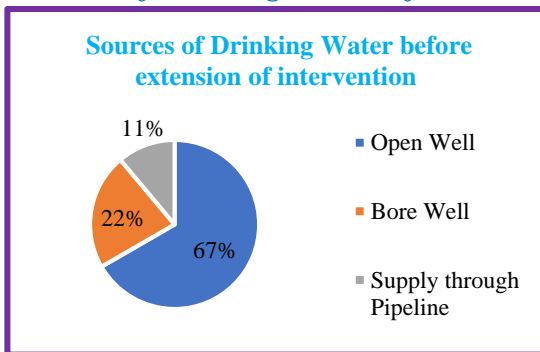


Interaction with the beneficiaries of Teheranpur



Interaction with the beneficiaries of Teheranpur

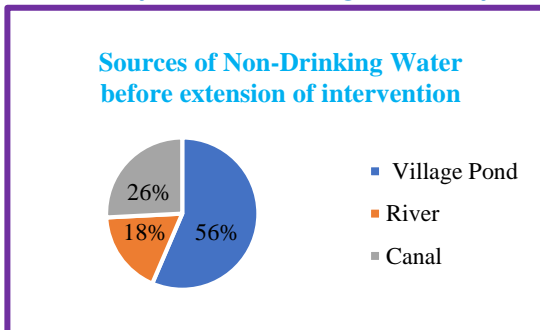
Sources of Drinking Water before extension of intervention



According to the data collected, it was found that 22% of the respondents relied on bore wells for their drinking water needs, while 67% relied on open wells. Based on the data provided, it is evident that a mere 11% of the respondents acknowledged the existence of pipe water supply facilities prior to the intervention.

Figure 61: Sources of Drinking Water before extension of intervention

Sources of Non-Drinking Water before extension of intervention



According to the data provided, a significant portion of the participants, specifically 56%, reported relying on the village pond for non-potable water needs before the intervention took place. According to the data provided, it can be observed that 18% of the respondents relied on rivers for non-drinking water purposes, while 26% relied on canals.

Figure 62: Sources of Non-Drinking Water before extension of intervention

Uses of Pipe Water Supply for the Beneficiaries

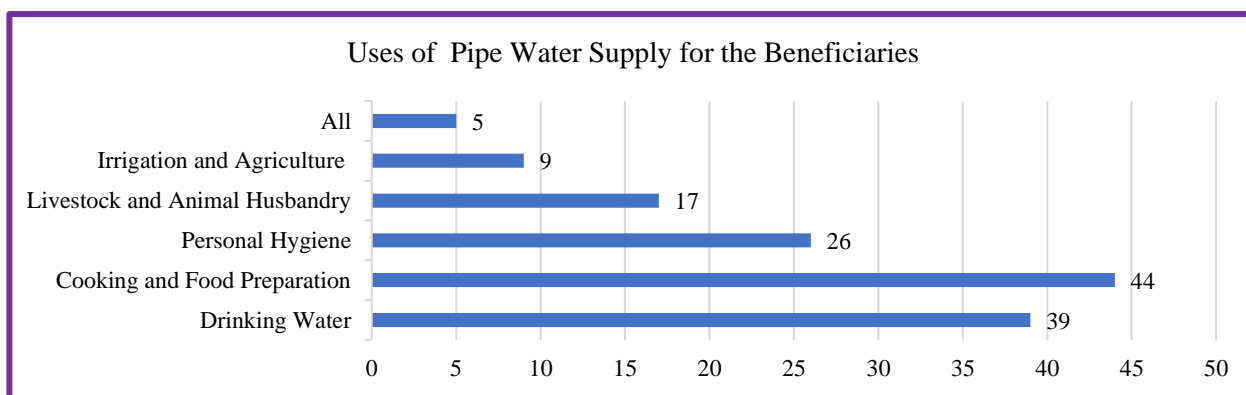


Figure 63: Uses of Pipe Water Supply for the Beneficiaries

A significant majority of the recipients, comprising (44 or 88%) individuals, acknowledges the primary utilization of water supply in food preparation. A considerable proportion of the participants (39 or 78%) assert that it possesses utility as potable water. A total of 26 (52%) individuals expressed their agreement with the utilization of water supply for personal hygiene purposes, while 17 (34%) individuals agreed with its use in animal husbandry. Additionally, 9 (18%) individuals expressed their agreement with the use of water supply in agriculture. Only five individuals have expressed agreement that the piped water supply is capable of fulfilling all of the aforementioned objectives.

Responses from the Beneficiaries

	Responses	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.42
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.48
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.39
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.45
Q5	In the rainy season it is become really difficult to get clean drinking water.	4.23
Q6	These infected water bodies are causing spreading of infectious diseases.	4.23
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.19
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.28
Q9	Water sources like tube well, borewell and pipe water supply are constructed and renovated with good quality and standards.	4.02
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.35
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	3.95
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	3.78
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	3.65
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.25
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, borewell and pipe water supply are up to the level of satisfaction.	3.76
Q16	The construction and maintenance of facilities are completed in due course of time.	4.12
Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	3.89

Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.21
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, borewell and pipe water supply are functional and efficiently providing clean water.	3.74
Q20	These water bodies are properly constructed so that there is no waste of clean water.	3.68
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.52
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.12
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.18
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	3.50
Effectiveness and Uniqueness of the Intervention		
Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	3.48
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.42
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.79
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.49
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	3.38
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.79
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	3.72
Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	3.58
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	3.19
Sustainability of the Intervention		

Table 41: Responses from the Beneficiaries

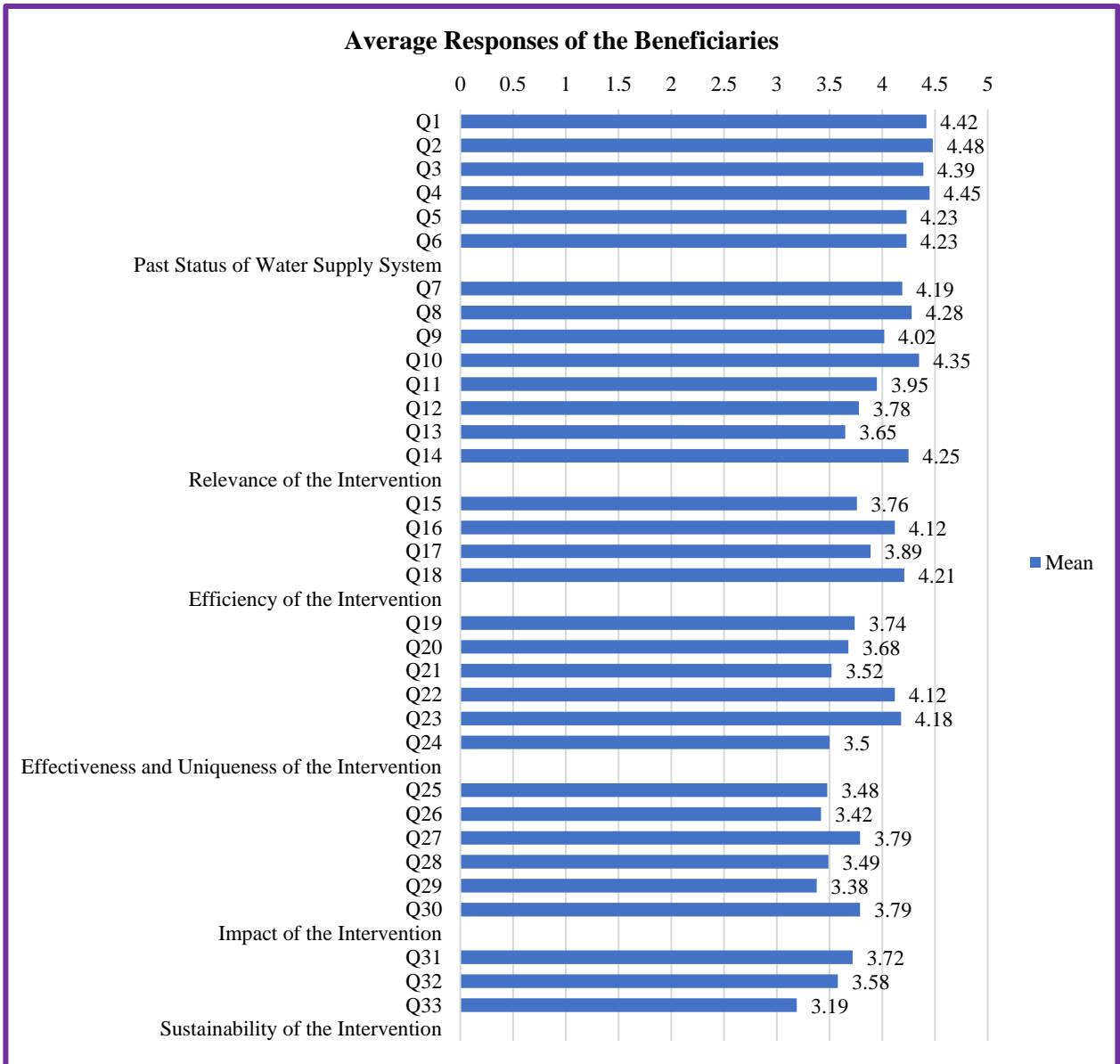


Figure 64: Average Responses of the Beneficiaries

The recipients' feedback on the historical condition of the water supply system indicates several key points. Firstly, they expressed that the quality and quantity of water supplied throughout the year from existing sources were inadequate and unsafe (mean score: 4.42). They also highlighted the persistent water scarcity in the village, emphasizing the need for regular water supply (mean score: 4.48). The majority of respondents reported that tube wells and bore wells were non-functional (mean score: 4.39), leading to the renovation and maintenance of various water bodies such as bore wells, tube wells, pipe water supply, and tanker water supply during the summer season (mean score: 4.45). Clean drinking water became increasingly difficult to obtain during the rainy season (mean score: 4.23), with these contaminated water bodies contributing to the spread of infectious diseases (mean score: 4.23).

The relevance of the intervention was questioned, and it was revealed that the supply of drinking water through pipelines had been a long-awaited and genuine need of the villagers (mean score: 4.19). The beneficiaries acknowledged that the focus on constructing and maintaining the water supply system met the basic needs of the local population, with support from the district administration and MCL (mean score: 4.28). Water sources such as tube wells, bore wells, and pipe water supply were constructed and

renovated to meet acceptable quality standards (mean score: 4.02). The demand for construction and repair of the water supply system to ensure safe and clean drinking water was continuous (mean score: 4.35). The construction and renovation efforts successfully fulfilled the requirement for an adequate quantity of clean drinking water (mean score: 3.95). The newly constructed water supply system was considered appropriate for providing a consistent water supply throughout the year (mean score: 3.78), and stakeholders were consulted during its construction (mean score: 3.65).

MCL's CSR policy was recognized for its attention to providing clean drinking water through construction and renovation efforts (mean score: 4.25). The beneficiaries expressed satisfaction with the quality of construction and renovation of water bodies, such as tube wells, bore wells, and pipe water supply (mean score: 3.76). The timely completion of construction and maintenance activities was appreciated (mean score: 4.12), along with the optimal utilization of allocated funds and the value added to the provision of clean and sufficient drinking water (mean score: 3.89). The construction work was closely monitored by MCL's CSR department professionals (mean score: 4.21), and the effectiveness and uniqueness of the intervention were evident, with functional water bodies providing clean water efficiently (mean score: 3.74). Measures were taken to minimize water waste (mean score: 3.68), and beneficiaries expressed satisfaction with the quality and quantity of water after system maintenance (mean score: 3.52). MCL successfully commissioned the intervention with support from the construction firm, completing the project ahead of schedule (mean score: 4.12), and neighboring areas accessed the water supply measure (mean score: 4.18). Awareness of the intervention was fostered through the placement of display boards (mean score: 3.50).

The construction and renovation of the water supply system were deemed beneficial, providing clean drinking water to the villages and surrounding areas (mean score: 3.48) and reducing water scarcity throughout the year (mean score: 3.42). The provision of clean water contributed to the eradication of waterborne diseases (mean score: 3.79), satisfying household needs (mean score: 3.49). Beneficiaries were aware of MCL's investment in the water supply system (mean score: 3.38) and appreciated MCL as a responsible corporate citizen (mean score: 3.79). Beneficiaries are little concerned about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 3.72. There is little participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 3.58. It is seen that there is some attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 3.19.

External PWS to Badasingada Mala Ragudi Ashram

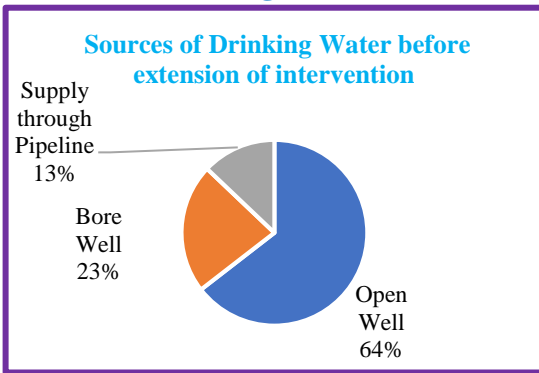


Pipe Water Supply System at Badasingada Mala Ragudi Ashram



Interaction with beneficiaries at Badasingada Mala Ragudi Ashram

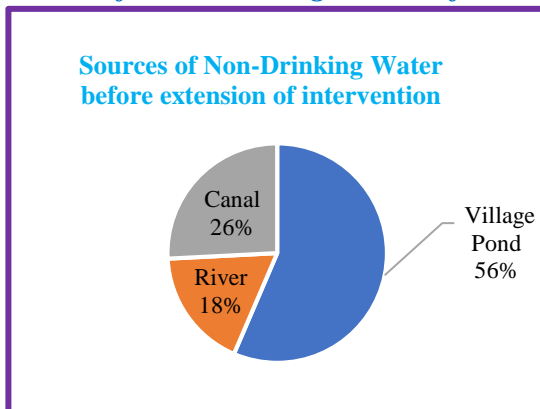
Sources of Drinking Water before extension of intervention



According to the data provided, it can be observed that 23% of the respondents relied on bore wells for their drinking water needs, while a majority of 64% relied on open wells. According to the data provided, a mere 13% of the respondents reported the existence of pipe water supply facilities prior to the intervention.

Figure 65: Sources of Drinking Water before extension of intervention

Sources of Non-Drinking Water before extension of intervention



According to the data provided, most respondents, accounting for 56% of the total, reported that they relied on the village pond for non-drinking water purposes before the intervention occurred. According to the data provided, it is observed that 18% of the respondents relied on rivers, while 26% relied on canals for non-drinking water purposes.

Figure 66: Sources of Non-Drinking Water before extension of intervention

Uses of Pipe Water Supply for the Beneficiaries

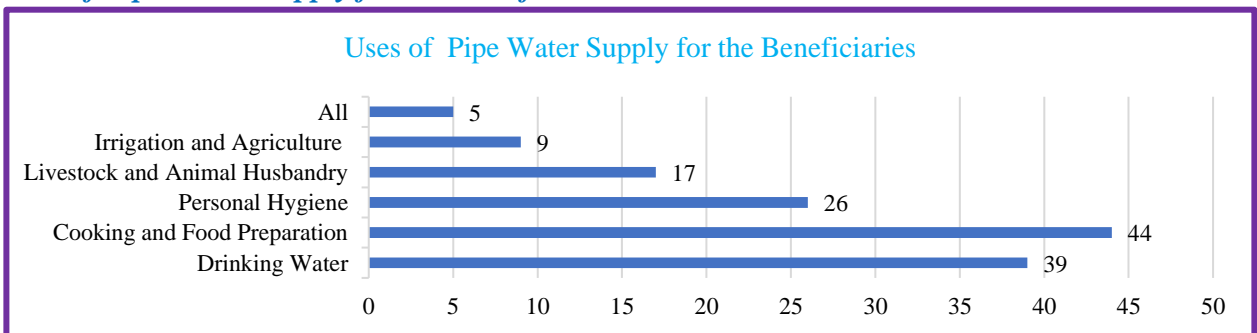


Figure 67: Uses of Pipe Water Supply for the Beneficiaries

A significant majority of the beneficiaries (44 or 88%) acknowledged the primary use of the supplied water in food preparation. A considerable number of respondents (39 or 78%) agreed that it is valuable for drinking water purposes. A smaller number of people (26 or 52%) recognized the importance of supply water in personal hygiene, while a fewer number (17 or 34%) agreed on its usefulness in animal husbandry. Only a handful of respondents (9 or 18%) acknowledged its significance in agriculture. Interestingly, only 5 individuals agreed that the pipe water supply serves all the mentioned purposes.

Responses from the Beneficiaries

Responses

Mean Score

Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.39
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.42
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.32
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.35
Q5	In the rainy season, it is become really difficult to get clean drinking water.	4.21
Q6	These infected water bodies are causing spreading of infectious diseases.	4.15
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.12
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.31
Q9	Water sources like tube well, bore well and pipe water supply are constructed and renovated with good quality and standards.	2.98
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.19
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	3.45
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	3.26
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.23
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.15
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, bore well and pipe water supply are up to the level of satisfaction.	2.87
Q16	The construction and maintenance of facilities are completed in due course of time.	4.12
Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	3.95
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.28
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, borewell and pipe water supply are functional and efficiently providing clean water.	2.89
Q20	These water bodies are properly constructed so that there is no waste of clean water.	3.25
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	2.95
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.12
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.29
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	3.15
Effectiveness and Uniqueness of the Intervention		
Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	3.94
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.52
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.75
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.09
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	3.47
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.71
Impact of the Intervention		
Q31	Government/local administration is focusing on prompt repair and maintenance of water supply system.	2.58

Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	2.69
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	2.45

Sustainability of the Intervention

Table 42: Responses from the Beneficiaries

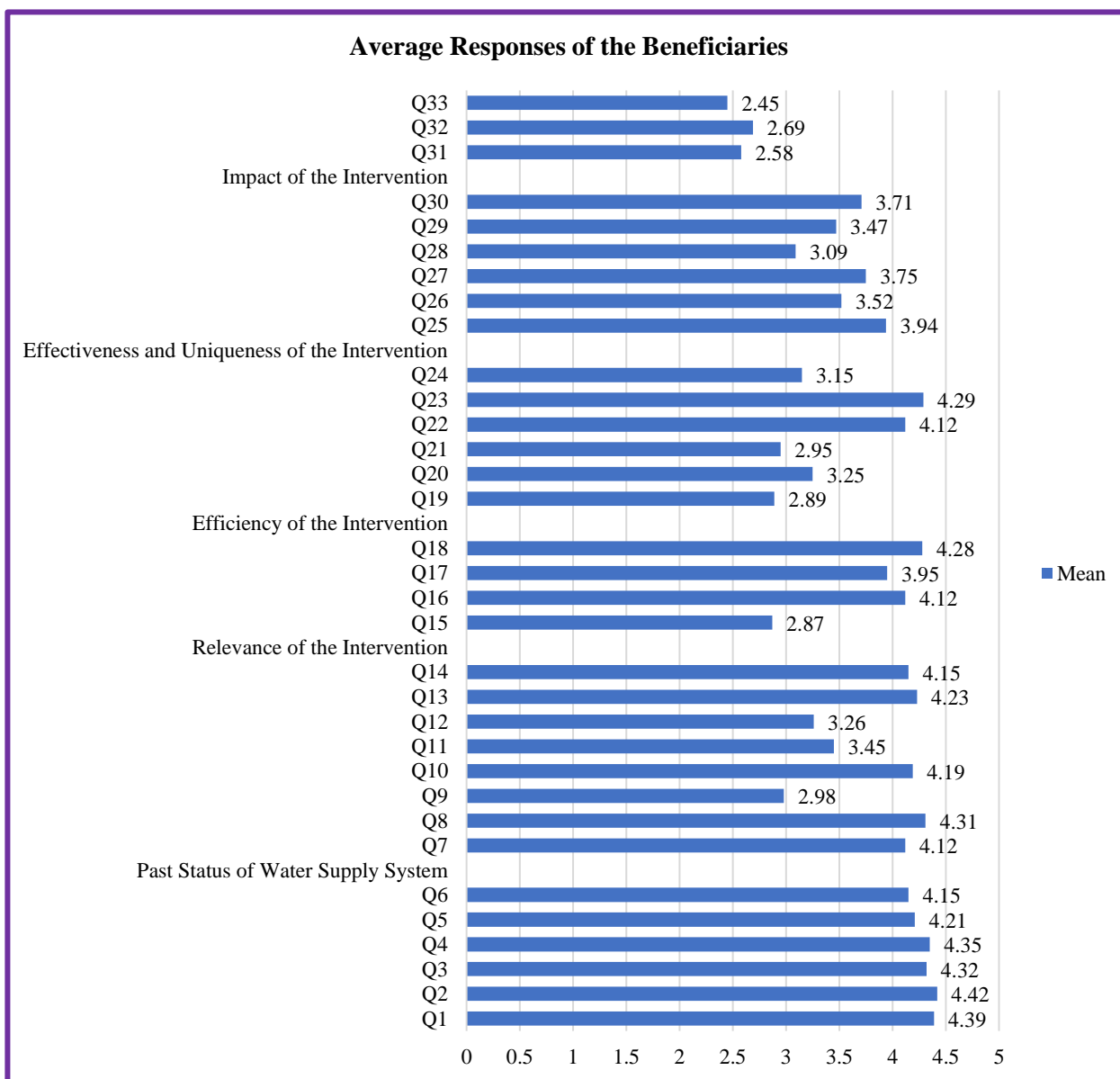


Figure 68: Average Responses of the Beneficiaries

The respondents have provided feedback regarding the past condition of the water supply system. The average mean score of 4.39 indicates that the beneficiaries perceived the quality and quantity of water supplied from existing sources throughout the year to be inadequate and unsafe. Furthermore, there was a consistent water shortage in the village, as indicated by the average mean score of 4.42. The majority of respondents (average mean score of 4.32) reported that tube wells and bore wells were not functional. Renovation and maintenance of water bodies such as bore wells, tube wells, pipe water supply, and tanker water supply during the summer months received an average mean score of 4.35. Obtaining clean drinking water during the rainy season was challenging, as reflected by the average mean score of 4.21.

The infected water bodies were identified as a cause for the spread of infectious diseases, with an average mean score of 4.15.

The relevance of the intervention was questioned, and it was found that the provision of drinking water through pipelines had been a long-awaited demand, with an average mean score of 4.12. The district administration and MCL were recognized for prioritizing the construction and maintenance of the water supply system based on the basic needs of the local population, earning an average mean score of 4.31. The water sources, including tube wells, bore wells, and pipe water supply, were reported to be constructed and renovated with acceptable quality and standards, with an average mean score of 2.98. Respondents expressed a strong demand for the construction and maintenance of water supply systems for safe and clean drinking water, with an average mean score of 4.19. The construction and renovation of the water supply system successfully provided the required quantity of clean water, according to the average mean score of 3.45. The newly constructed water supply system was not fully sufficient for year-round water supply (average mean score of 3.26). Collaboration with local government representatives and beneficiaries in the construction of the water supply system received an average mean score of 4.23.

MCL's CSR policy was acknowledged for its focus on providing clean drinking water through the construction and renovation of water supply measures (average mean score of 4.15). The effectiveness of the intervention was recognized, with an average mean score of 2.87 about the unsatisfactory quality of construction and renovation of water bodies. The completion of construction and maintenance activities within the expected timeframe earned an average mean score of 4.12. Optimal utilization of allocated funds and value addition for clean and sufficient water supply received an average mean score of 3.95. The construction work was closely supervised and guided by professionals from MCL's CSR department, with an average mean score of 4.28.

The functionality of newly constructed water bodies, such as tube wells, bore wells, and pipe water supply, was rated moderately (average mean score of 2.89). Minimizing waste of clean water through proper construction was acknowledged (average mean score of 3.25). There is dissatisfaction with the quality and quantity of water after maintenance was reported with an average mean score of 2.95. MCL's successful implementation of the intervention with support from the construction firm received an average mean score of 4.12. The completion of the project ahead of schedule and accessibility for nearby residents earned an average mean score of 4.29. However, there was a perceived need for improvement in branding and awareness, with an average mean score of 3.15 for placing a sign about the intervention.

Overall, the construction and renovation of the water supply system were recognized for providing clean drinking water to the villages and surrounding areas (average mean score of 3.94). The reduction of water scarcity throughout the year in the village received an average mean score of 3.52. The provision of clean water was acknowledged for its role in eradicating water-borne diseases, with an average mean score of 3.75. The supply of water through pipelines was deemed unsatisfactory for households, with an average mean score of 3.09. The beneficiaries were aware of MCL's investment in the water supply system, with an average mean score of 3.47. MCL's efforts as a responsible corporate citizen were appreciated, earning an average mean score of 3.71. Beneficiaries are concerned about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 2.58. There is very little participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 2.69. It is seen that there is very some attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 2.45.

External PWS to Santhapada (Intake well, Pump House & pipeline)



Display Board of Pipe Water Supply System at Santhapada



Intake Well at Santhapada

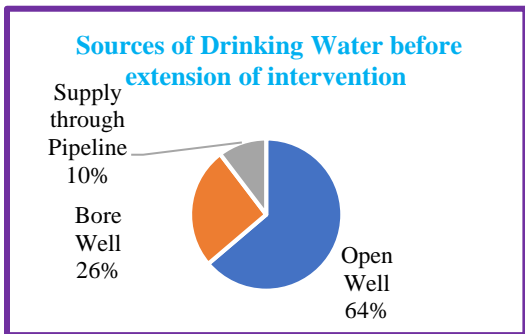


Pump House at Santhapada



Interaction with the beneficiaries' of Santhapada

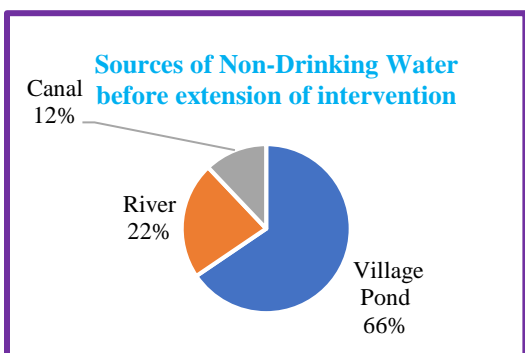
Sources of Drinking Water before extension of intervention



According to the survey participants, 26% relied on bore wells and 64% relied on open wells for the purpose of obtaining drinking water. Prior to the intervention, a mere 10% of the respondents reported the existence of pipe water supply facilities.

Figure 69: Sources of Drinking Water before extension of intervention

Sources of Non-Drinking Water before extension of intervention



Prior to the intervention, a significant majority of the respondents (66%) reported relying on the village pond for non-drinking water needs. According to the survey participants, 22% of individuals relied on rivers, while 12% relied on canals for non-drinking water needs.

Figure 70: Sources of Non-Drinking Water before extension of intervention

Uses of Pipe Water Supply for the Beneficiaries

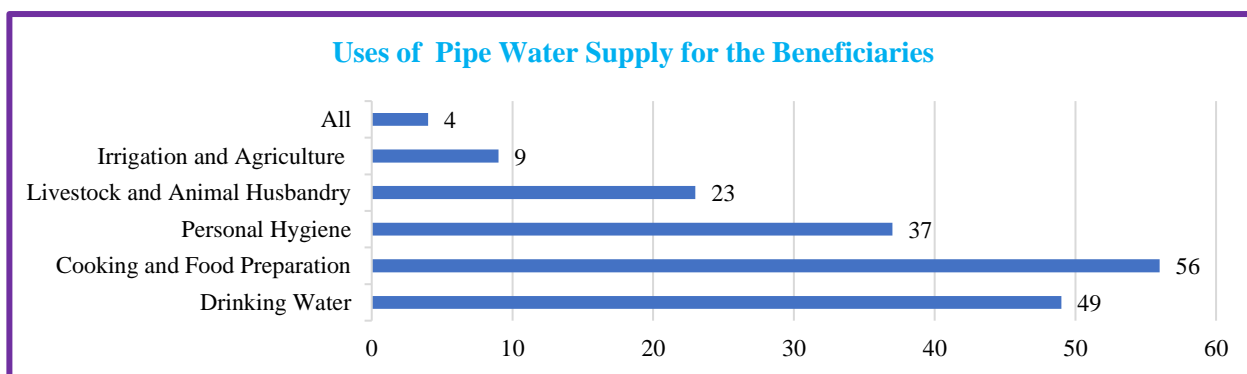


Figure 71: Uses of Pipe Water Supply for the Beneficiaries

Many beneficiaries, a significant 56 in number (93%), have astutely recognized the primary purpose of the supply water, which is none other than its indispensable role in food preparation. According to the responses received, a notable proportion of the participants (49 or 82%) assert that the substance in question holds value as a suitable source of hydration. According to the data provided, a total of 37 (62%) individuals have expressed their agreement with the utilization of supply water for personal hygiene purposes. Additionally, 23 (38%) people have indicated their support for its use in animal husbandry, while 9 individuals have advocated for its application in agriculture. Only four individuals have expressed agreement regarding the pipe water supply's ability to serve all the aforementioned purposes.

Responses from the Beneficiaries

	Responses	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.68
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.59
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.42
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.35
Q5	In the rainy season it is become really difficult to get clean drinking water.	4.45
Q6	These infected water bodies are causing spreading of infectious diseases.	4.12
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.19
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.26
Q9	Water sources like tube well, borewell and pipe water supply are constructed and renovated with good quality and standards.	4.38
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.42
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	4.30
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	4.21
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.32
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.26
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, bore well and pipe water supply are up to the level of satisfaction.	4.28
Q16	The construction and maintenance of facilities are completed in due course of time.	4.11

Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	4.15
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.35
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, bore well and pipe water supply are functional and efficiently providing clean water.	3.98
Q20	These water bodies are properly constructed so that there is no waste of clean water.	3.95
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.58
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.12
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.08
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	4.29
Effectiveness and Uniqueness of the Intervention		
Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	4.08
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.68
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.54
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.74
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	4.26
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.36
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	4.12
Q32	Local youth clubs or SHG groups are voluntarily coming forward for repair and maintenance of the measures.	3.98
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	4.05
Sustainability of the Intervention		

Table 43: Responses from the Beneficiaries

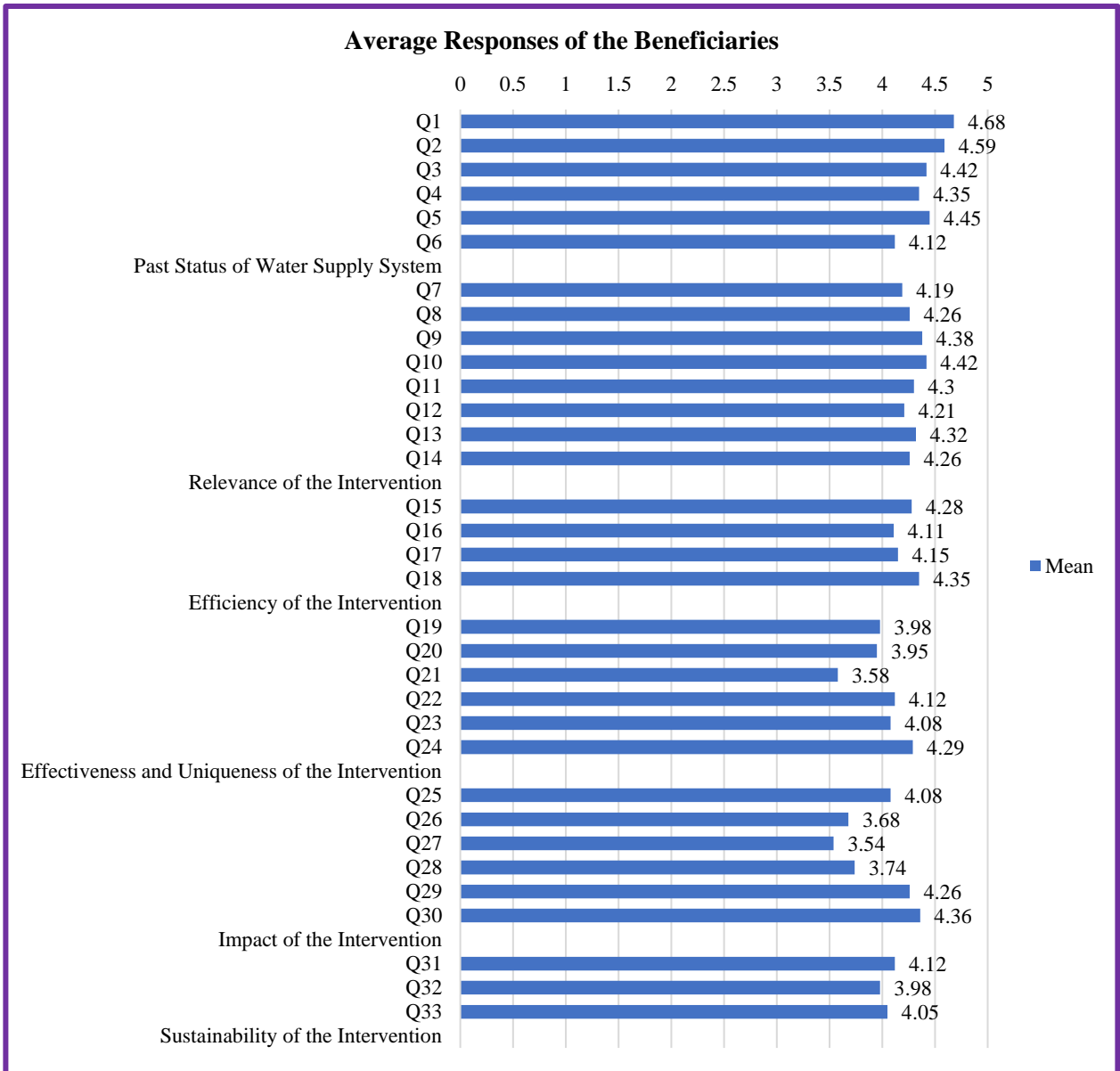


Figure 72: Average Responses of the Beneficiaries

The water supply system intervention recipients offered valuable feedback on infrastructure history. The beneficiaries' average mean score of 4.68 suggested that current sources' water was inadequate and unsafe throughout the year. An average mean score of 4.59 indicates that the hamlet needs a reliable water delivery system due to water constraint. Tube and bore wells were non-functional for most participants, scoring 4.42 on average. With an average mean score of 4.35, the data shows rural water body renovation and maintenance, including bore wells, tube wells, pipe water delivery, and summer tanker water supply. An average mean score of 4.45 showed that rainy season water access was still difficult. The recipients reported that contaminated water sources spread infectious diseases, averaging 4.12. Villagers have long needed piped drinking water, and beneficiaries scored this intervention 4.19 on average. They gave the district administration and MCL an average mean score of 4.26 for prioritizing water supply system construction and maintenance, recognizing the importance of clean water. The study found that tube wells, bore wells, and pipe water delivery systems were built and renovated to high standards, scoring 4.38 on average. However, an average mean score of 4.42 indicated a continual need for water supply infrastructure building and maintenance to assure safe and drinkable drinking water.

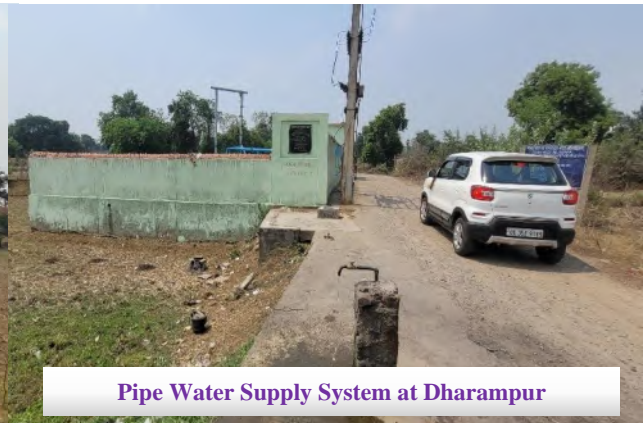
With an average mean score of 3.30, the water delivery system has met the communities' need for drinkable water. The recipients gave the new water supply system an average mean score of 4.21, saying it provides enough water year-round. The water supply measure was adequately created with local government leaders and beneficiaries, resulting in an average mean score of 4.32. MCL's CSR strategy, which prioritizes clean drinking water through development and rehabilitation projects, received a 4.26 mean score. The recipients' satisfaction with the intervention's performance was 4.12, while the efficient allocation of finances and optimal utilization for clean and sufficient drinking water was 4.15. MCL's CSR professionals managed the project to a 4.35 average mean score. The study found that the newly developed water sources deliver drinkable water, with an average mean score of 3.98. Water bodies also reduce water waste, scoring 3.95.

After system maintenance, recipients scored 3.58 on water quality and quantity. MCL's intervention with the construction firm received an average mean score of 4.12. The project's early completion and local use earned it a 4.08 mean score. MCL's creative display board placement for branding and awareness earned a 4.29 mean score. The beneficiaries gave the water supply system's construction and restoration a mean score of 4.08. The village's water delivery systems reduced water scarcity and eliminated waterborne infections, earning an average mean score of 3.68 and 3.54, respectively. Pipelines met residential water demand, scoring 3.74 on average. With a mean score of 4.26, beneficiaries knew of MCL's water supply system construction and renovation. MCL, Burla, was rated 4.36 for its corporate citizenship. Beneficiaries are happy about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 4.12. There is very huge number participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 3.98. It is seen that attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 4.05.

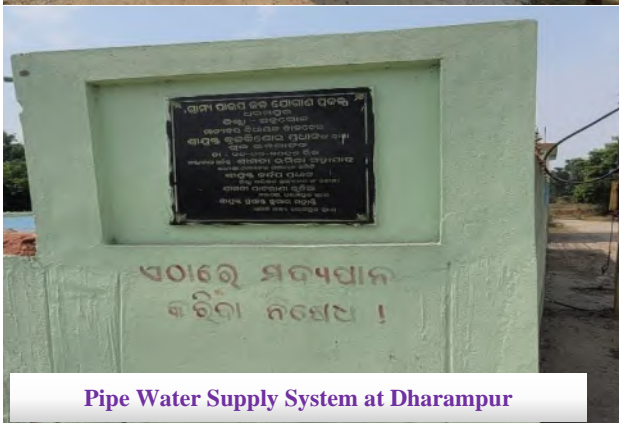
Improvement of PWS to Village Dharampur



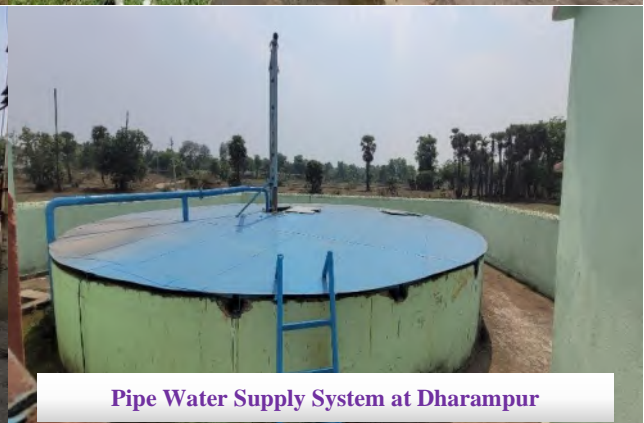
Pipe Water Supply System at Dharampur



Pipe Water Supply System at Dharampur



Pipe Water Supply System at Dharampur



Pipe Water Supply System at Dharampur



Interaction with the Beneficiaries at Dharampur



Interaction with the Beneficiaries at Dharampur

Sources of Drinking Water before extension of intervention

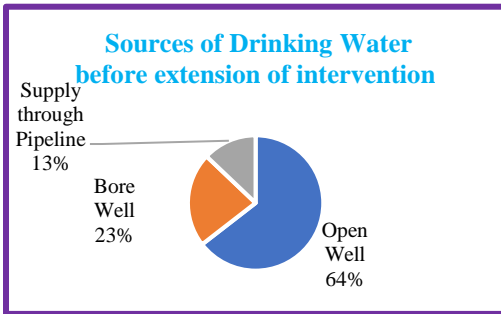


Figure 73: Sources of Drinking Water before extension of intervention

According to the survey participants, 23% of individuals relied on bore wells, while a majority of 64% relied on open wells for their drinking water needs. According to the survey results, a mere 13% of the participants reported the existence of pipe water supply facilities prior to the intervention.

Sources of Non-Drinking Water before extension of intervention

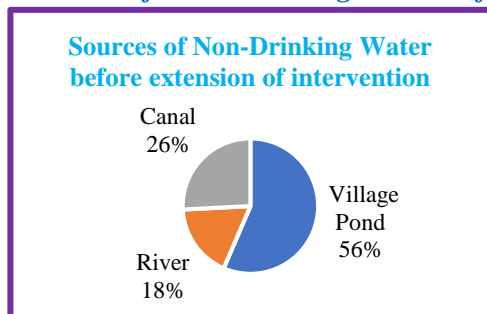


Figure 74: Sources of Non-Drinking Water before extension of intervention

According to the survey results, a significant majority of the participants (56%) reported relying on the village pond for non-drinking water needs before the implementation of the intervention. According to the survey participants, it was found that 18% of individuals relied on rivers, while 26% relied on canals for non-drinking water needs.

Uses of Pipe Water Supply for the Beneficiaries

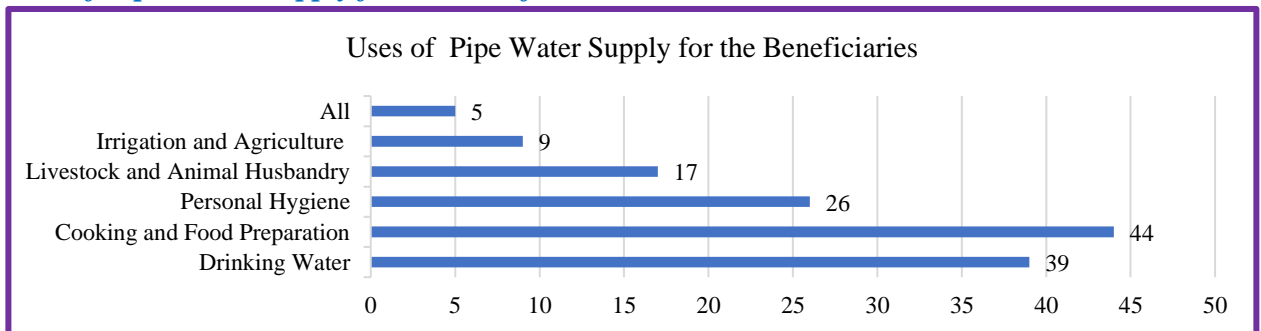


Figure 75: Uses of Pipe Water Supply for the Beneficiaries

The vast majority of beneficiaries, specifically 44 (88%) individuals, acknowledge the primary purpose of using supplied water for food preparation. A notable portion of the respondents (39 or 78%) asserts that it is beneficial for consumption as drinking water. The number of people who agreed to use supplied water

for personal hygiene, animal husbandry, and agriculture is 26 (52%), 17 (34%), and 9 (18%), respectively. Only five people (10%) agree that the pipe water supply serves all of the above purposes.

Responses from the Beneficiaries

	Responses	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.29
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.12
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.14
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.26
Q5	In the rainy season it is become really difficult to get clean drinking water.	3.98
Q6	These infected water bodies are causing spreading of infectious diseases.	3.89
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.12
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.18
Q9	Water sources like tube well, borewell and pipe water supply are constructed and renovated with good quality and standards.	4.28
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	3.74
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	3.72
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	4.12
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.28
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.32
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, bore well and pipe water supply are up to the level of satisfaction.	4.29
Q16	The construction and maintenance of facilities are completed in due course of time.	4.23
Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	4.35
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.21
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, bore well and pipe water supply are functional and efficiently providing clean water.	4.32
Q20	These water bodies are properly constructed so that there is no waste of clean water.	4.25
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.75
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.29
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.35
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	3.58
Effectiveness and Uniqueness of the Intervention		
Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	4.36
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	3.85
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	3.89
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	3.59

Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	3.52
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.98
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	3.95
Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	3.68
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	3.42
Sustainability of the Intervention		

Table 44: Responses from the Beneficiaries

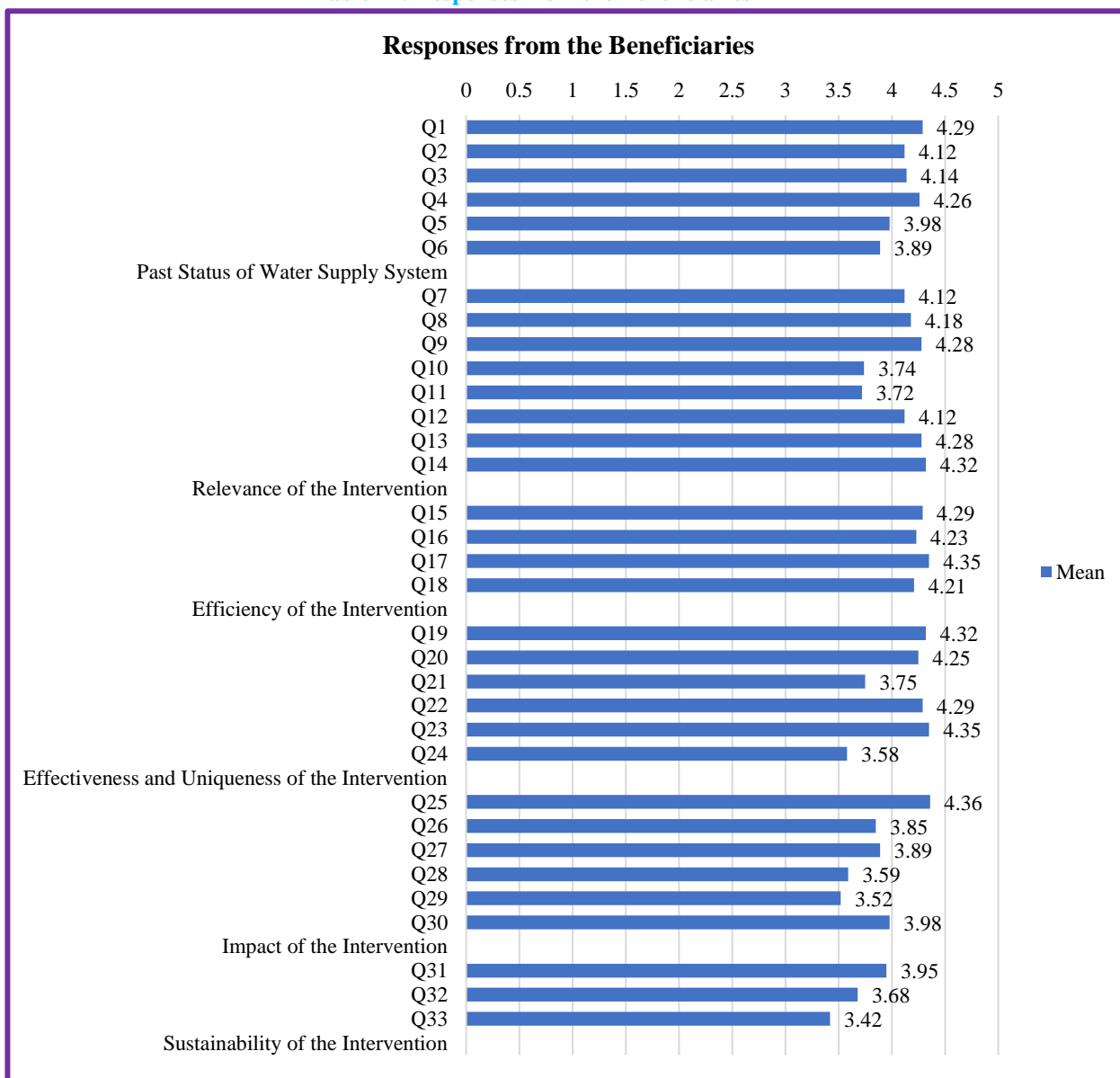


Figure 76: Responses from the Beneficiaries

The water supply system intervention receivers offered valuable feedback on its state. The beneficiaries' average mean score of 4.29 shows that the year-round water supplied from existing sources is dangerous and inadequate. The village's 4.12 water deficit requires regular water delivery. Most respondents reported broken tube and bore wells, with a mean score of 4.14. The rehabilitation and maintenance of the village's bore wells, tube wells, pipe water supply, and summer tankers averages 4.26. With a mean score

of 3.98, getting clean drinking water during the rainy season remains difficult. 3.89 on average, recipients worried about dirty water spreading infectious diseases. With an average mean score of 4.12, pipeline drinking water service was considered a long-awaited necessity.

The beneficiaries gave the district administration and MCL a mean score of 4.18 for prioritizing local needs in water delivery system construction and maintenance. They scored tube wells, bore wells, and pipe water sources 4.28 on average. The study shows a 3.74 mean score for safe and clean drinking water supply system development and repair. The building and restoration of the water distribution system has delivered enough clean drinkable water to the inhabitants, rating 3.72 on average. The new water delivery system, with an average mean score of 4.12, is thought to provide enough water year-round to solve the village's water shortage. Local government and beneficiaries collaborated to create the water supply measure, which scored 4.28.

MCL's CSR strategy of establishing and renovating water supply measures for safe drinking water scored 4.32. The beneficiaries gave the building and restoration of tube wells bore wells, and pipe water supplies an average mean score of 4.29, indicating its efficiency. The facilities' timely construction and upkeep scored 4.23. With a mean score of 4.35, the intervention was cost-effective, efficient, and provided clean and abundant drinking water. MCL CSR personnel extensively monitored the project, resulting in a 4.21 average mean score. Tube wells, bore wells, and pipes provide pure water, scoring an average mean of 4.32 for efficacy and uniqueness. These water bodies' design minimized clean water waste, earning a 4.25 average mean score from beneficiaries.

After water system maintenance, recipients scored 3.75 on water quality and quantity. MCL and the building firm's intervention commissioning partnership scored 4.29. The project's early completion and neighbor satisfaction earned a 4.35 mean score. MCL's display board branding and publicity efforts scored 3.58. Beneficiaries said the water supply system improvement and refurbishment offered clean drinking water to communities and nearby areas with an average mean score of 4.36. With an average mean score of 3.85, the water supply systems reduce local water scarcity year-round. Clean water's effect on water-borne diseases was 3.89. On average, 3.59 respondents thought water pipelines met household demands. Beneficiaries knew about MCL's water supply system construction and restoration, rating 3.52 on average. MCL's corporate citizenship score was 3.98. Beneficiaries are happy about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 3.95. There is some participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 3.68. It is seen that little attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 3.42.

RPWS to village Gopalprasad



Pump House at Gopalprasad



Online Chlorination facility at Gopalprasad

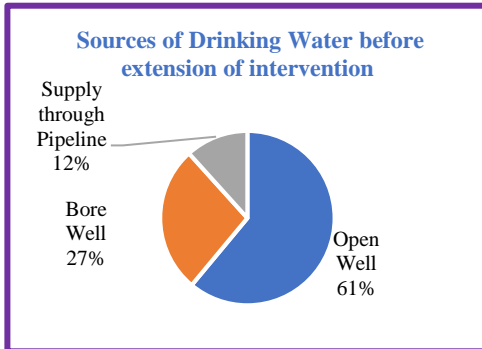


Interaction with the Beneficiaries at Gopalprasad



Intake Well at Gopalprasad

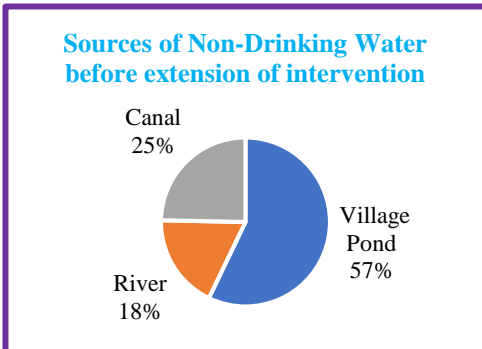
Sources of Drinking Water before extension of intervention



According to the survey participants, 23% relied on bore wells and 64% relied on open wells for obtaining drinking water. A mere 13% of the participants reported the existence of piped water supply infrastructure prior to the implementation of the intervention.

Figure 77: Sources of Drinking Water before extension of intervention

Sources of Non-Drinking Water before extension of intervention



A significant proportion of the participants (56%) reported reliance on the village pond for non-potable water needs prior to the implementation of the intervention. According to the survey participants, 18% relied on rivers and 26% relied on canals for non-potable water needs.

Figure 78: Sources of Non-Drinking Water before extension of intervention

Uses of Pipe Water Supply for the Beneficiaries

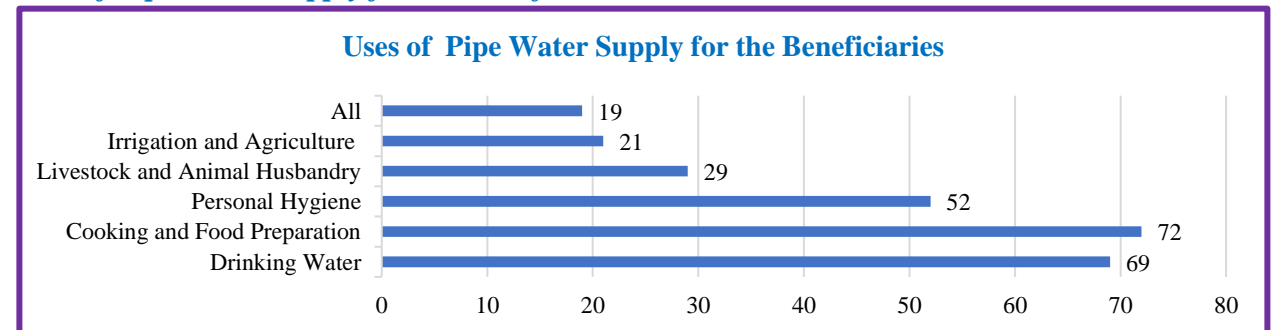


Figure 79: Uses of Pipe Water Supply for the Beneficiaries

Most recipients (72 or 90%) acknowledge the primary utilization of supplied water in food preparation. A considerable proportion of the participants (69 or 86%) assert that it possesses utility as potable water. A

total of 26 (35%) individuals agreed with using water supply for personal hygiene. In comparison, 17 (21%) individuals agreed with its use in animal husbandry, and nine (11%) agreed with its use in agriculture. Only five individuals (6%) have concurred that the piped water supply adequately caters to all the aforementioned objectives.

Responses from the Beneficiaries

	Responses	Mean Score
Q1	The quality and quantity of water supplied from the existing sources throughout the year is not adequate and safe for drinking purpose.	4.12
Q2	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.05
Q3	Majority of tube wells / bore wells are most of the times are in defunct condition.	4.02
Q4	There is a need for renovation and maintenance of water bodies of the villages such as bore well, tube well, pipe water supply and supply of water through tankers in summer season.	4.26
Q5	In the rainy season it is become really difficult to get clean drinking water.	4.12
Q6	These infected water bodies are causing spreading of infectious diseases.	3.95
Past Status of Water Supply System		
Q7	Supply of drinking water through pipelines is a long awaiting genuine demand by the villagers as identified by the district administration.	4.09
Q8	Focus on construction and maintenance of water supply system is based on the basic need of the local people was truly realized by the district administration and MCL.	4.02
Q9	Water sources like tube well, bore well and pipe water supply are constructed and renovated with good quality and standards.	4.28
Q10	There is a continuous demand for construction and repairing of water supply system for safe and clean drinking water.	4.05
Q11	Construction and renovation of water supply system has fulfilled the need of getting required quantity of clean drinkable water by the villagers.	4.32
Q12	Newly constructed water supply system is quite appropriate to receive adequate supply of water throughout the year.	4.28
Q13	The water supply system/measure is properly constructed in consultation with the representatives of local government and beneficiaries.	4.19
Q14	MCL's CSR policy has also given due attention on supply of clean drinking water through construction and renovation of water supply measures.	4.35
Relevance of the Intervention		
Q15	The quality of construction and renovation of water bodies like tube well, bore well and pipe water supply are up to the level of satisfaction.	4.21
Q16	The construction and maintenance of facilities are completed in due course of time.	4.29
Q17	Optimum utilization of fund allocated for this intervention and true value addition for supply of clean and adequate water for drinking purpose.	4.17
Q18	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.35
Efficiency of the Intervention		
Q19	These newly constructed water bodies like tube well, bore well and pipe water supply are functional and efficiently providing clean water.	4.31
Q20	These water bodies are properly constructed so that there is no waste of clean water.	4.25
Q21	Beneficiaries/Villagers are happy with the quality and quantity of the water supplied after maintenance of the system.	3.98
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.35
Q23	The project was completed before the scheduled time and people of nearby areas have accessed the measure.	4.33
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	4.30
Effectiveness and Uniqueness of the Intervention		

Q25	Construction and renovation of water supply system has helped to provide clean drinking water among the villages and nearby areas.	4.27
Q26	These water supply systems help in reducing water scarcity throughout the year in the village.	4.15
Q27	Supply of clean water helping villagers in eradicating different water borne diseases.	4.02
Q28	Supply of water through pipelines from the water sources (tube wells/bore wells) has fulfilled the need of the households.	4.21
Q29	The beneficiaries are aware about the investment made by MCL for construction and renovation of water supply system.	4.32
Q30	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.31
Impact of the Intervention		
Q31	Government/local administration is focusing on timely repair and maintenance of water supply system.	4.19
Q32	Local youth clubs or SHG groups are voluntarily come forward for repair and maintenance of the measures.	3.98
Q33	Government/local administration is providing training to the local youths regarding repair and maintenance of water supply system.	3.79
Sustainability of the Intervention		

Table 45: Responses from the Beneficiaries

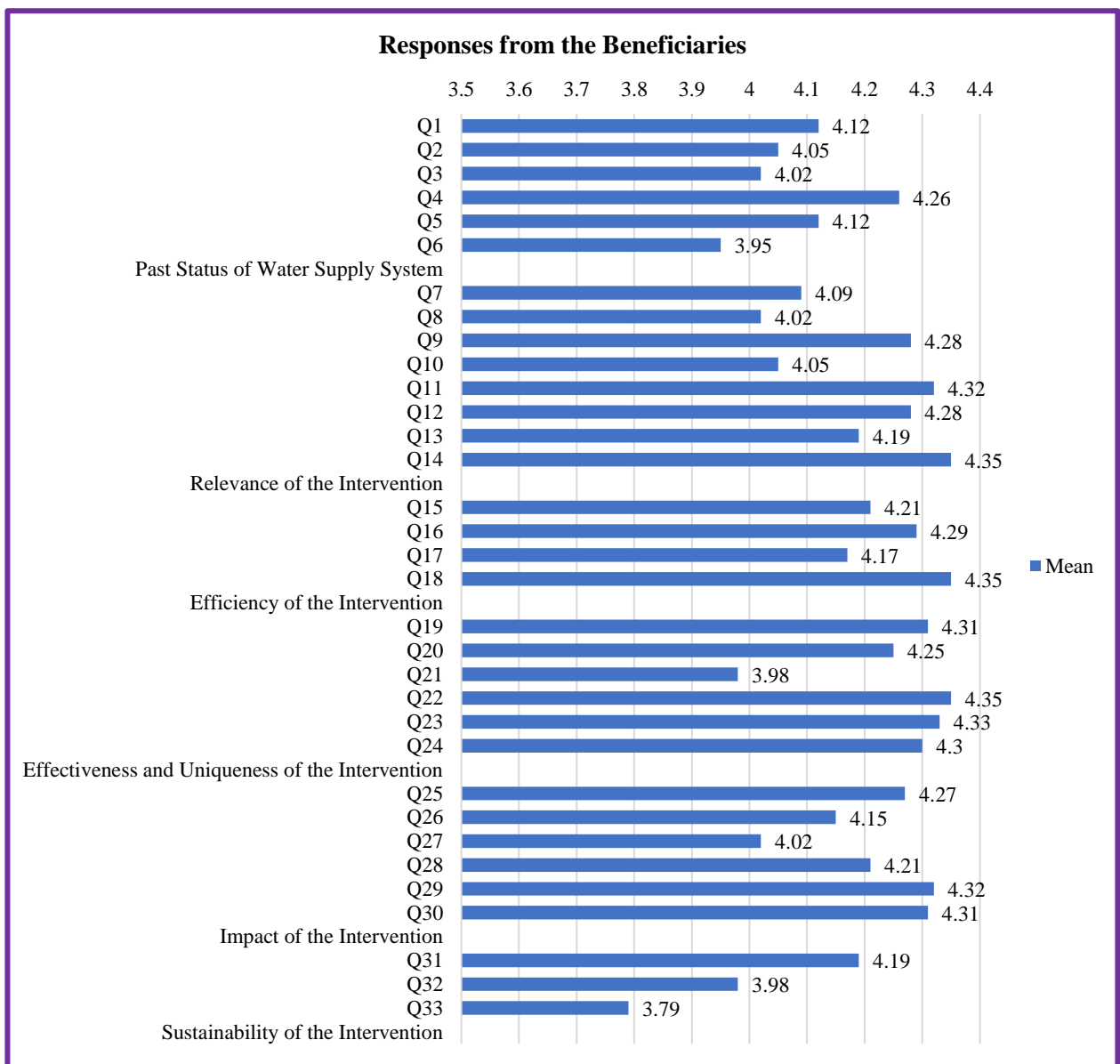


Figure 80: Responses from the Beneficiaries

The recipients have provided water system performance comments. During the year, beneficiaries assessed the quality and quantity of water from current sources 4.12 out of 5. The village needed a stable water supply with a mean score of 4.05 due to water constraint. Tube and bore wells were inoperable for most respondents (mean score 4.02). A mean score of 4.26 shows that the villages' water systems—bore wells, tube wells, pipe water supply, and summer tanker water delivery—have been updated and maintained. Getting clean drinking water during the rainy season averages 4.12. Polluted water sources may help spread infectious diseases, since recipients scored 3.95 on average. Recipients are curious about the program's benefits. The average mean score was 4.09, showing that people had been waiting for pipelines to supply drinking water. The beneficiaries gave the district administration and MCL a mean score of 4.02 for establishing and maintaining a water supply system to meet local needs. With a mean score of 4.28, tube wells, bore wells, and pipe water delivery infrastructure development and refurbishment are high quality.

As noticed, clean water supply infrastructure needed to be built and repaired. The villagers' mean score of 4.32 suggests that the water delivery system's development and refurbishment met their need for clean drinkable water. The beneficiaries gave the recently built water supply system an average mean score of 4.28, showing their satisfaction with its year-round water supply. After engaging local government leaders and beneficiaries, the water supply measure was rated well designed with a mean score of 4.19. MCL's CSR strategy prioritized water supply construction and renovation, scoring 4.35 on average. Recipients appreciate this program's success. Tube well, bore well, and pipe water supply construction and rehabilitation were all rated 4.21 or higher.

Beneficiaries rated building and maintaining facilities on time, with 4.29 mean score out of 5. With a mean score of 4.17, funds were spent most efficiently, and safe drinking water was added value. MCL's CSR personnel actively directed and monitored the building process to a mean score of 4.35, according to sources. Examine the intervention's efficacy and uniqueness. New tube wells, boreholes, and pipe water distribution systems have a mean efficiency score of 4.31 and supply clean water. These bodies of water were rated 4.25 by beneficiaries, suggesting that they are well designed to conserve pure water. Users rate water quality and quantity 3.98 after system maintenance. MCL and the construction business completed this intervention with a mean score of 4.35 out of 5. The neighboring towns had access to the exam, which scored 4.33 on average. The project was completed ahead of schedule. MCL also carefully placed a display board about the intervention, resulting in a mean score of 4.30. The water supply system's beneficiaries scored 4.27 out of 5 in a poll.

These water delivery systems help people overcome year-round water shortages with a mean score of 4.15. Clean water gets a 4.02 average mean score for minimizing water-related illnesses in communities. Respondents rated piped water from water sources 4.21 out of 5. MCL informs beneficiaries on water supply system construction and renovation with a mean score of 4.32. MCL, Burla's social responsibility activities were rated 4.31 by beneficiaries. Beneficiaries are happy about the timely repair and maintenance of pipe water supply system by government or local administration as the mean score is 4.19. There is some number participation by local youths and SHGs with regards to the repair and maintenance of measure as the mean score is 3.98. It is seen that attention given by the concerned authority with regards to providing training to the local with regards to repair and maintenance work as the mean score is 3.79.

8.4 Intervention: Promoting Sanitation

Promoting sanitation by constructing toilets and bathrooms involves the objectives of increasing access to adequate sanitation facilities, improving hygiene practices, preventing the spread of diseases, ensuring privacy and dignity, and fostering behavior change. These interventions aim to protect public health, enhance environmental sustainability, and empower communities to embrace proper sanitation practices for a healthier and more hygienic living environment.

Objective of this Intervention

- Increase access to sanitation facilities through toilet and bathroom construction.
- Promote proper hygiene practices and reduce open defecation.
- Prevent the spread of waterborne diseases through proper waste disposal.
- Provide private and dignified spaces for personal hygiene needs.
- Encourage behavior change towards regular toilet use and handwashing.
- Protect the environment by preventing water and soil contamination.
- Implement sustainable solutions for resource efficiency.
- Ensure accessibility for people with disabilities.
- Engage communities in the construction and maintenance of facilities.

Research methodology

This study collected and analyzed data using qualitative and quantitative methods. Surveys, interviews, direct observation, and concentrated group discussions collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with MCL's CSR coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data.

Phase I: Sampling Procedure

The local communities, MCL's CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique was used for the study.

Phase II: Determination of Sample Size

We have used previously explained formula for calculation of sample size determination. Under this intervention approximately 246 samples are collected.

Details about this Intervention

The project has benefitted more than 1600 population of five tribal villages of Jharsuguda and Sundargardh district. Under the project, 364 households' toilets and bathrooms were constructed with piped water supply system to 375 households making the villages free from open defecation. The village wise details of beneficiaries are as under:

District	Block	Gram Panchayat	Village	No. of Beneficiary Families
Jharsuguda	Lakhanpur	Panchgaon	Sukulpali	70
	Kolabera	Pokharasalhe	Jengapada	112
Sundargard	Rajgangpur	Kukuramunda	Gobarpeti	66
	Kuarmunda	Dumerjore	Tetrabahal	52
	Kuarmunda	Kukhundabahal	Karlbud	75
Total				375

Project name	Construction of Toilet & bathroom components along with connected administration & management expense as part of ongoing project of sustainable development works in operational district by Gram Vikash.
Cost of the Intervention	Rs. 253.00 Lakhs
Location (District, State)	Sukulpali, Jengapada, Gobarpeti, Tetrabahal and Karlbud
Number of beneficiaries	375 Households
Project Status	Completed
Year of Commencement	2017-18
Year of Completion	2020-21

8.4.1 Construction of Toilet & bathroom components along with connected administration & Management expense as part of ongoing project of sustainable development works in operational district by Gram Vikash



Pipe Water Supply Facility at Tetrabahal



Toilet and Bathroom Facility at Tetrabahal



Interaction with the Beneficiaries at Tetrabahal



Intake Well at Tetrabahal



Pipe Water Supply System at Gobarpeti



Interaction with the Beneficiaries at Karlbud



Interaction with the Beneficiaries at Karlbud



Pipe Water Supply System at Karlbud



Interaction with the Beneficiaries at Karlbud



Pipe Water Supply System at Jengapada



Interaction with the Beneficiaries at Jengapada



Pipe Water Supply Facility at Jengapada



Building for meeting regarding condition sanitation at Jengapada



Toilet and Bathroom Facility at Jengapada



Kitchen Garden along with Toilet and Bathroom at Jengapada



Toilet and Bathroom Facility at Jengapada



Display Board regarding intervention at Jengapada



Interaction with the Beneficiaries at Sukulpali

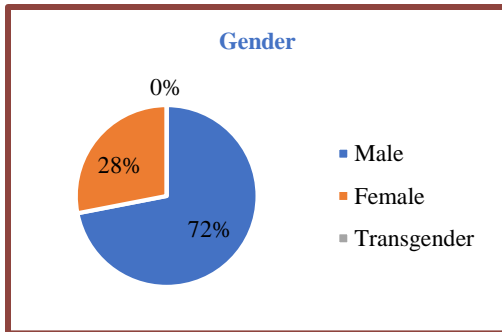


Toilet and Bathroom Facility at Sukulpali

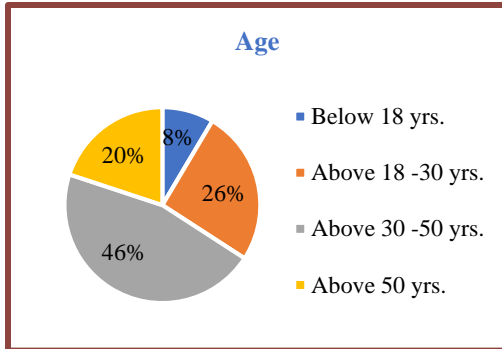


Display Board regarding intervention at Sukulpali

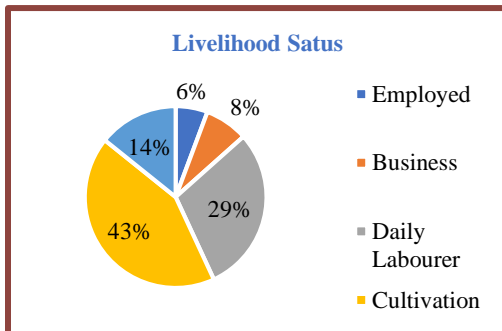
Key Findings from the survey
Demographic and Socio-economic details of the Beneficiaries



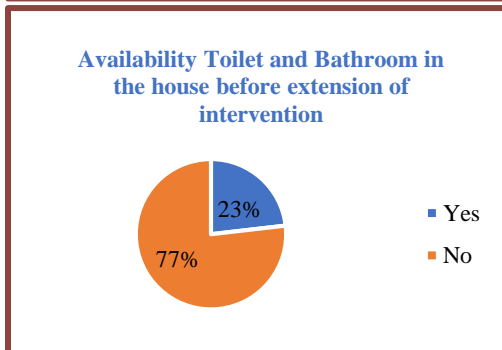
The data collected from the respondents reveals important information about the gender distribution among the participants. The survey categorized individuals based on their self-identified gender, and the results indicated a clear majority of male respondents, comprising 72% of the total participants. On the other hand, the female respondents constituted 28% of the overall sample.



A significant number of the individuals surveyed (46%) fall within the age range of 30-50 years, with an additional 26% falling within the age range of 18-30 years. Among the respondents, it is worth noting that 8% fall within the age group below 18 years, while 20% are above the age of 50.



A significant proportion of the survey participants (43%) are involved in agricultural cultivation, while 29% are employed as daily laborers to sustain their livelihoods. Out of the total respondents, it was found that a mere 8% possess their own business, while 6% are engaged in self-employment. Additionally, a notable 14% of the respondents derive their livelihood from farming activities.



77% of beneficiaries reported no toilet or bathroom facilities before the intervention. This shows that many beneficiaries lacked sufficient sanitation, which could have major hygiene and public health consequences. However, 23% said they had toilets and bathrooms before the intervention. Before the intervention, this minority population presumably had some sanitary facilities, but it may have been inadequate.

Figure 81: Demographic and Socio-economic details of the Beneficiaries

Uses of Toilets for the Beneficiaries

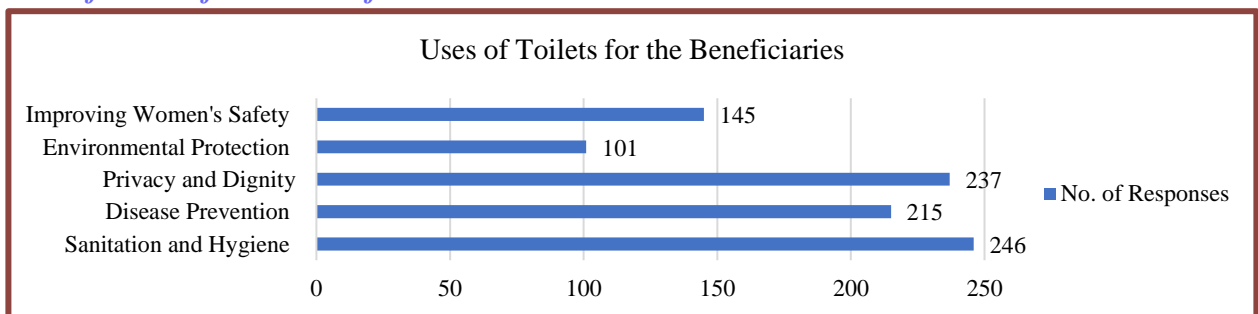


Figure 82: Uses of Toilets for the Beneficiaries

It is vital to note that 246 (98%) beneficiaries realize that a toilet promotes hygiene and sanitation. 237 (95%) respondents say they value privacy and dignity. A total of 215 people (86%) have agreed that toilets reduce diseases, which is encouraging. There are also 101 people (40%) recognize toilets' environmental benefits. This communal understanding and support for basic sanitation practices benefits individuals and our environment. Additionally, 145 people (58%) have supported the idea that decent restroom facilities can considerably improve women's safety.

Uses of Bathroom for the Beneficiaries

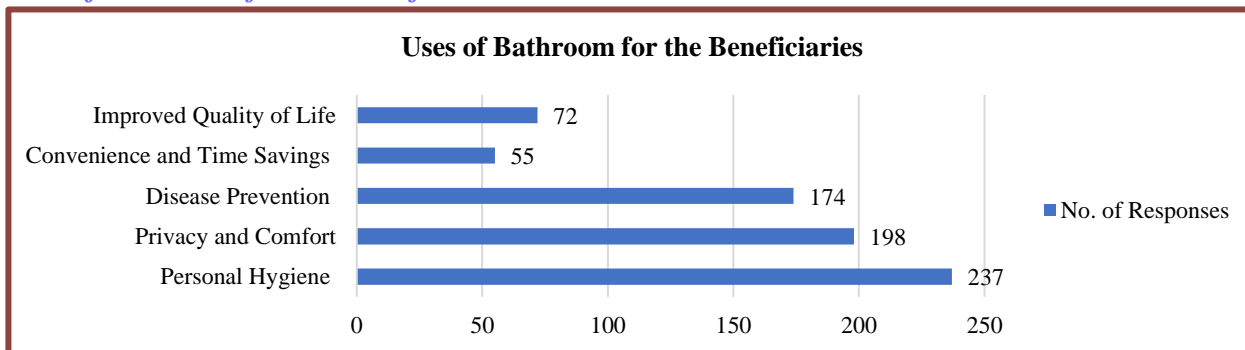


Figure 83: Uses of Bathroom for the Beneficiaries

It is essential to recognize that a sizeable proportion of individuals receiving support (237 or 95%) have a firm grasp on the primary function of restrooms, which is to promote hygiene and sanitation. A significant number of individuals (198 or 79%) have indicated that this feature gives them a sense of privacy and solace. It is essential to note that 174 or 69% of individuals have endorsed the use of toilets for disease prevention. In addition, 55 (22%) people have acknowledged the significance of lavatories for environmental protection. Additionally, it is noteworthy that a sizeable number of individuals, 72 (29%) in total, have expressed support for the notion that access to restrooms can significantly improve an individual's overall quality of life.

Status of Toilets, Bathrooms and Pipe Water Supply before Extension of CSR Intervention

	Responses	Mean Score
Q1	Toilets are not properly constructed which leads to open defecation.	4.47
Q2	There is no proper water supply to the toilets and bathrooms.	4.34
Q3	There is a need for construction of toilets and bathrooms with supply of water through pipeline.	4.36
Q4	During the rainy season, infectious diseases are proliferating as a result of open defecation.	4.31
Q5	Households are frequently suffering from skin diseases, diarrhea, cholera, and other diseases.	4.05
Q6	Lack of septic tanks is the reason for the growth of insects and mosquitoes.	4.26

Table 46: Status of Toilets, Bathrooms and Pipe Water Supply before Extension of CSR Intervention

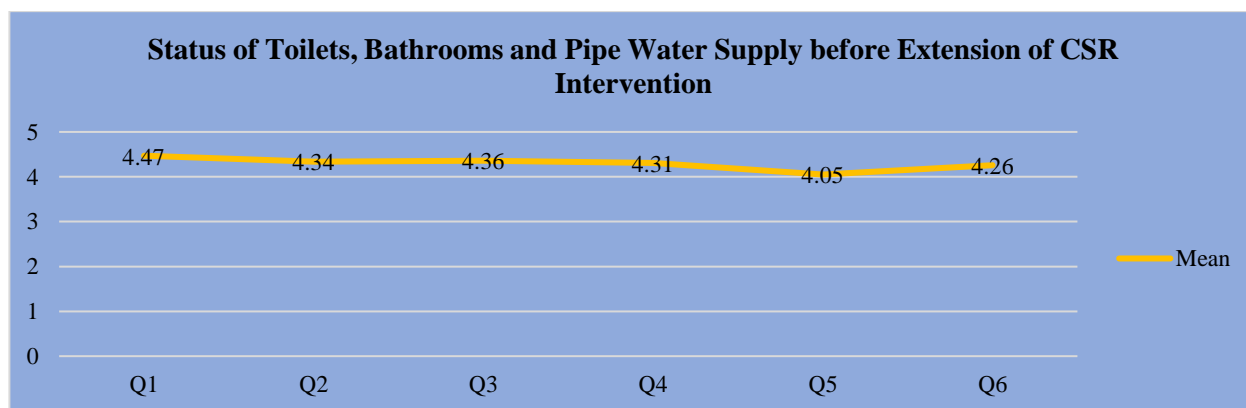


Figure 84: Status of Toilets, Bathrooms and Pipe Water Supply before Extension of CSR Intervention

An average mean score of 4.34 indicates that recipients believe the toilets and bathrooms lack water. Most recipients say poor toilet building leads to open defecation. A 4.47 mean score reflects this viewpoint. Lavatories and washrooms with pipeline-supplied water supply were required, earning an average mean score of 4.36. Open defecation during the wet season has increased infectious illness rates by 4.31. According to beneficiary recommendations, homes regularly suffered from skin problems, diarrhea, cholera, and other illnesses. These conditions scored 4.05. An average mean score of 4.26 showed that most recipients thought the lack of septic tanks caused insects and mosquitoes.

Relevance

	Responses	Mean Score
Q7	Focus on construction of toilets and bathrooms along with pipe water supply are based on the basic need of the local people as realized by MCL.	4.42
Q8	Toilets, bathrooms, and pipe water supply are constructed with good quality and standards.	4.34
Q9	There is a continuous demand for construction and repair of toilets and bathrooms to reduce open defecation.	4.31
Q10	Construction of toilets, bathrooms and pipe water supply are required to maintain personal hygiene and reducing water borne diseases.	4.45
Q11	The goal of construction of toilets, bathrooms and pipe water supply is to proper usage of sanitation infrastructure and make the village free from open defecation.	4.20
Q12	The toilets, bathrooms and pipe water supply are properly constructed in consultation with the beneficiaries of the identified villages.	4.52
Q13	MCL's CSR policy is also focusing on development of public consciousness regarding rural sanitation through construction of toilets, bathrooms and adequate water supply through pipe.	4.29

Table 47: Relevance of the Intervention

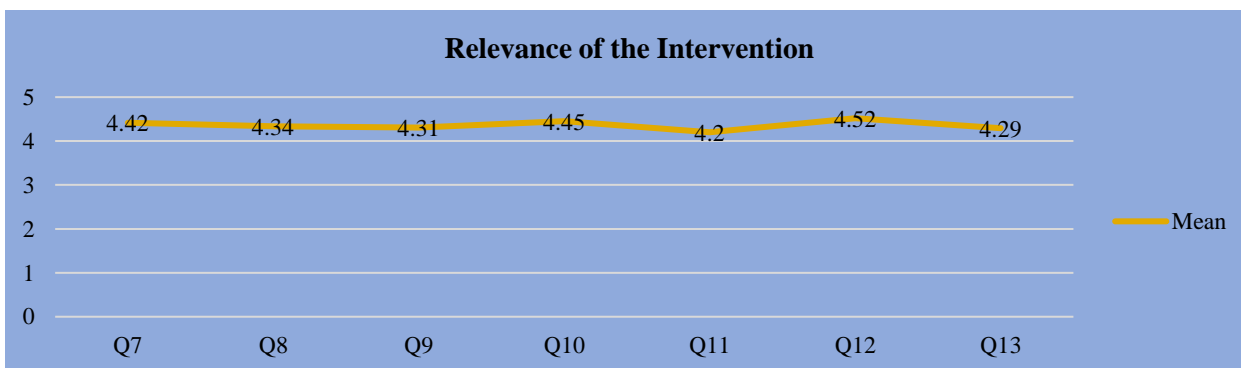


Figure 85: Relevance of the Intervention

With an average mean score of 4.42, beneficiaries said MCL understood that local people need toilets, bathrooms, and piped water. The beneficiaries rated the constructed toilets, bathrooms, and pipe water supply 4.34 on average. With an average mean score of 4.31, beneficiaries demanded toilet and bathroom construction and repair to reduce open defecation. With an average mean score of 4.56, beneficiaries recommended building toilets, bathrooms, and pipe water supplies to preserve personal cleanliness and decrease water-borne infections. With an average mean score of 4.20, many respondents believed that building toilets, bathrooms, and pipe water supplies would improve sanitation and eliminate open defecation in the hamlet. The toilets, bathrooms, and pipe water supply were built with local government representatives and scored 4.52. The respondents also gave MCL's CSR strategy a 4.29 average mean grade for promoting rural sanitation awareness.

Efficiency

	Responses	Mean Score
Q14	The quality material used in construction of toilets, bathrooms and pipe water supply are up to the level of satisfaction.	4.38

Q15	The construction work was completed in due course of time.	4.51
Q16	Optimum utilization of fund allocated for this intervention and true value addition.	4.38
Q17	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.31

Table 48: Efficiency of the Intervention

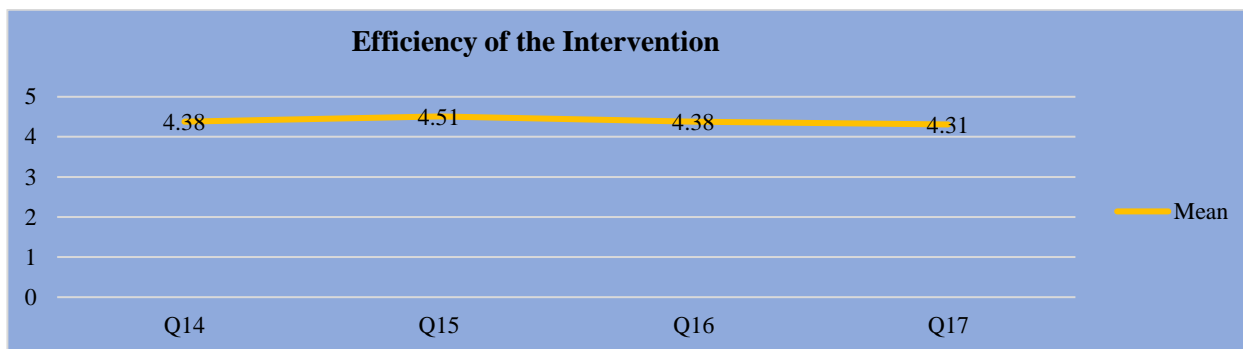


Figure 86: Efficiency of the Intervention

The majority of beneficiaries reported that the construction work was completed within the designated timeframe, yielding an average mean score of 4.51. The beneficiaries concur that the quality of materials employed in the construction of toilets, bathrooms, and pipe water supply meets their expectations, as evidenced by an average mean score of 4.38. The participants proposed an optimal utilization of the allocated funds for this intervention, along with a genuine enhancement of value, as indicated by an average mean score of 4.38. The completion of the construction work was carried out under the diligent supervision and guidance of the professionals from the Corporate Social Responsibility (CSR) department of MCL, as recommended by the beneficiaries. The average mean score achieved for this project was 4.31.

Effectiveness and Uniqueness

	Responses	Mean Score
Q18	The toilets with pipe water supply are properly designed along with fitting of sanitary ware for maintenance of hygienic condition.	4.35
Q19	The bathrooms are helping in improving women dignity and reduce daily drudgery of fetching and carrying water.	4.23
Q20	Beneficiaries are satisfied as because of identified households are having a toilet, bathroom with adequate pipe water supply.	4.39
Q21	Construction of bathrooms for identified family members have helped in reducing water borne diseases.	4.16
Q22	MCL has successfully commissioned this intervention with active support from the construction firm.	4.46
Q23	The project was completed before the scheduled time.	4.18
Q24	MCL has focused on branding and awareness by placing of a display board about the intervention extended in an appropriate place.	4.46

Table 49: Effectiveness and Uniqueness of the Intervention

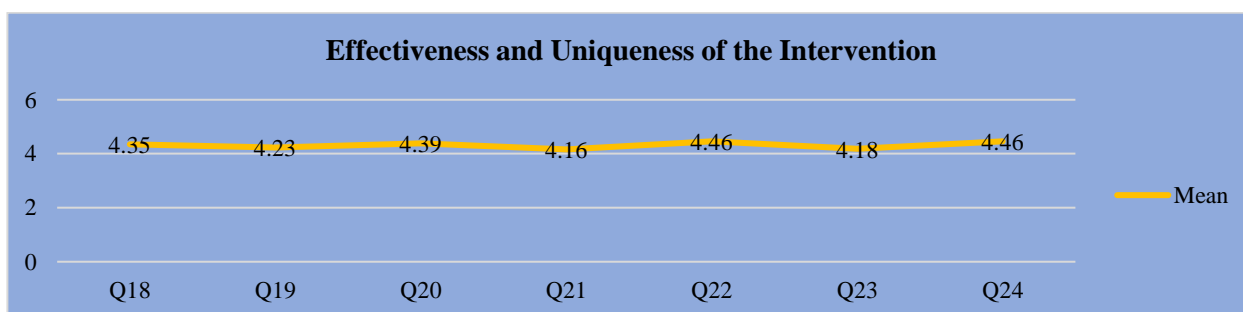


Figure 87: Effectiveness and Uniqueness of the Intervention

The recipients say the piped-water toilets are well designed and installed, assuring hygiene. 4.35 mean scores support this conclusion. A statistically significant mean score of 4.23 shows that bathrooms have improved women's dignity and eased water retrieval. A 4.39 mean score indicates beneficiary satisfaction. The identified residences have toilets and bathrooms with enough piped water. The beneficiaries' recommendations to install bathroom facilities for household members with an average mean score of 4.36 had reduced waterborne sickness rates. MCL's intervention yielded a 4.46 mean score. Construction firm support made this possible. Most beneficiaries, who gave an average mean score of 4.18, said the initiative was finished early. Respondents said MCL strategically placed display boards to raise awareness of the intervention. The mean score was 4.46.

Impact

	Responses	Mean Score
Q25	The degree of open defecation in the villages has reduced drastically and found free from open defecation.	4.52
Q26	This intervention will help in usage of sanitation facility to the optimum level with dignity of women.	4.43
Q27	The measures are quite helpful in reducing water borne diseases, maintaining personal hygiene and kitchen sanitation.	4.20
Q28	This will play an important role in the rainy season for use of toilets and bathrooms by the beneficiaries.	4.39
Q29	This effective pipe water supply will help to reduce daily drudgery of fetching and carry water by women.	4.32
Q30	These sanitation units are also helping in reducing transmission of infectious diseases.	4.17
Q31	The beneficiaries are aware about the investment made by MCL for construction of toilets and bathrooms.	4.47
Q32	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.50

Table 50: Impact of the Intervention

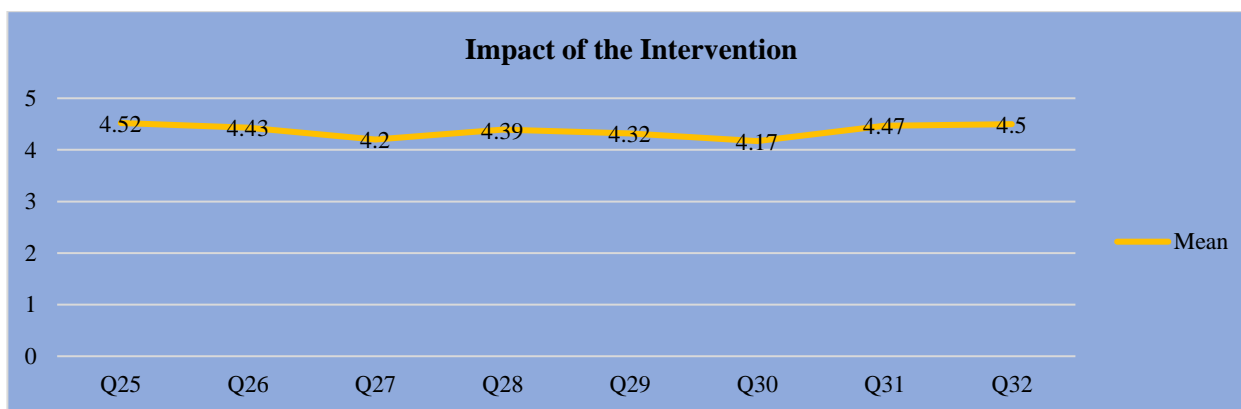


Figure 88: Impact of the Intervention

The villages are now open defecation-free, according to recipients. 4.52 average mean scores support this beneficial outcome. This intervention will maximize sanitary facility use and protect women's dignity, according to recipients. A 4.43 mean score supports this result. An average mean score of 4.20 showed that the interventions prevented waterborne illnesses, maintained personal hygiene, and ensured kitchen sanitation. This would help recipients use toilets and bathrooms during the rainy season, according to beneficiary ideas. The 4.39 mean score supports this conclusion. The findings suggest that this efficient piped water system will make water fetching and transporting easier for women. The 4.32 mean score supports this. As shown by a 4.17 mean score, beneficiaries believe sanitation units reduce infectious disease spread. An average mean score of 4.47 indicates that recipients understand MCL's lavatory and toilet investment. Users also gave MCL, Burla an average mean score of 4.50 for its social responsibility.

Sustainability

	Responses	Mean Score
Q33	The beneficiaries are maintaining the sanitation facilities provided by MCL through Gram Vikash.	4.56
Q34	Government agencies/community organizations used to impart skills on sanitary fitting and plumbing works to the local youths for creating sustainable livelihood.	4.39

Table 51: Sustainability of the Intervention

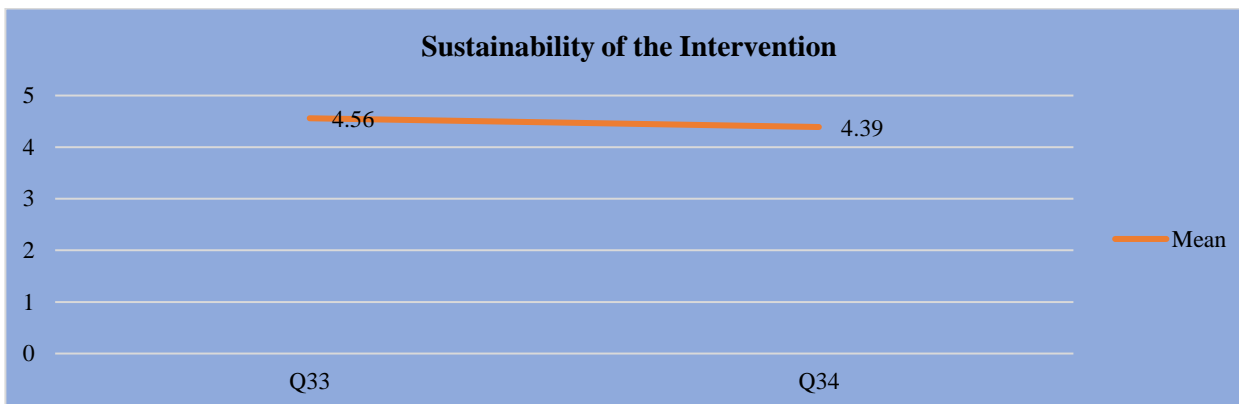


Figure 89: Sustainability of the Intervention

The findings reveal that a significant proportion of recipients expressed their endorsement to MCL for provide financial assistance for construction of sanitation facility. Beneficiaries are maintaining the sanitation facility by themselves as shown in the response score of average 4.56. It has been determined that it is necessary to provide beneficiaries with training in the maintenance skills of sanitary fitting works and plumbing works. This training is essential not only for the proper upkeep of sanitary measures but also for enhancing the overall quality of life. The average mean score obtained for this training is 4.39.

8.5 Intervention: Afforestation Activities

Afforestation activities involve the deliberate planting of trees and the establishment of forests in areas where there were no trees or forests before. These activities aim to combat deforestation, restore ecosystems, mitigate climate change by capturing carbon dioxide, enhance biodiversity, prevent soil erosion, provide sustainable wood resources, and promote environmental sustainability for future generations.

Objective of this Intervention

- To combat deforestation and promote forest restoration.
- To enhance ecosystem resilience and biodiversity.
- To mitigate climate change by capturing carbon dioxide.
- To prevent soil erosion and improve land stability.
- To provide sustainable wood resources and support the timber industry.
- To promote environmental sustainability and conservation.
- To improve air and water quality through increased tree cover.
- To enhance wildlife habitats and support ecological balance.
- To contribute to sustainable development and livelihoods for local communities.

Research methodology

This study collected and analyzed data using qualitative and quantitative methods. Surveys, interviews, direct observation, and concentrated group discussions collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with

MCL's CSR coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data.

Phase I: Sampling Procedure

The local communities, MCL's CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique has used for the study.

Phase II: Determination of Sample Size

By using above used formula for collection of sample size, we have decided the number sample. Therefore, under this intervention approximately 385 samples are collected (2 interventions).

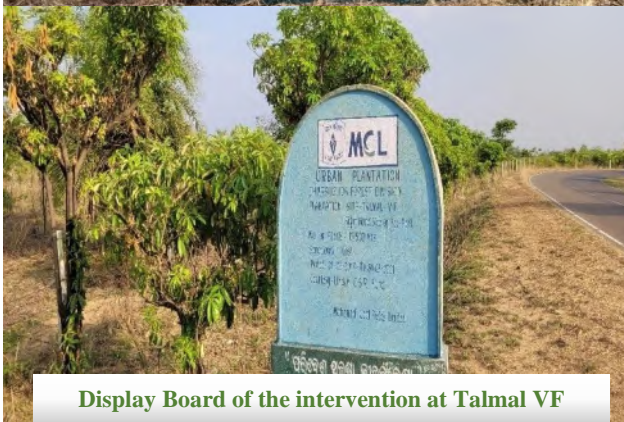
8.5.1 Implementation of Afforestation activities under Corporate Sector during 2017-18 on deposition basis through Divisional Forest, Jharsuguda forest Division for 4 years



Display Board of the intervention at Malimunda VF



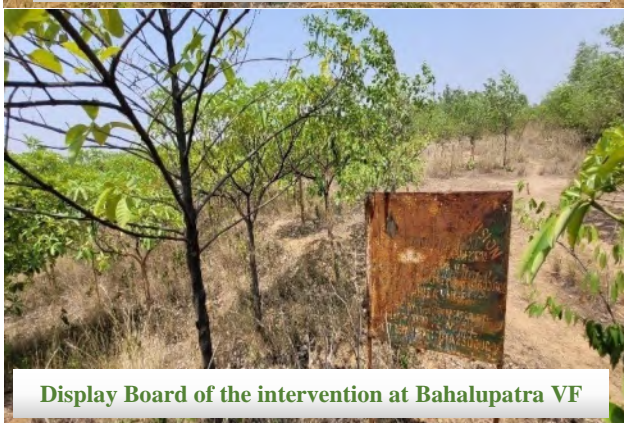
Display Board of the intervention at Malimunda VF



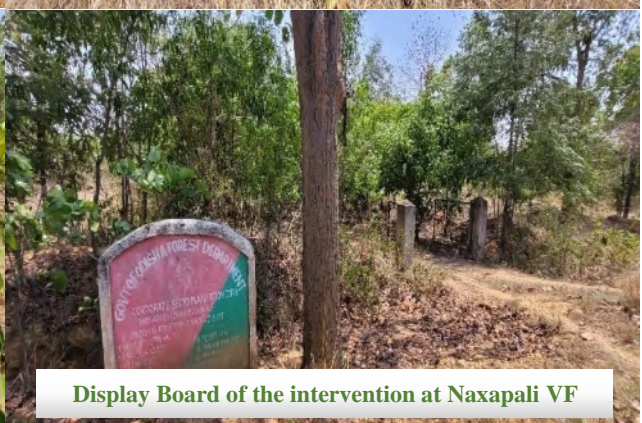
Display Board of the intervention at Talmal VF



Display Board of the intervention at Samasingha VF



Display Board of the intervention at Bahalupatra VF



Display Board of the intervention at Naxapali VF



Display Board of the intervention at Gurlabahal VF



Display Board of the intervention at Rengali



Display Board of the intervention at Barkani VF



Display Board of the intervention at Bisipali



Display Board of the intervention at Thebra



Intervention site



Intervention site



Intervention site

Details about this Intervention

Project name	Implementation of Afforestation activities under Corporate Sector during 2017-18 on deposition basis through Divisional Forest, Jharsuguda forest Division for 4 years.
Cost of the Intervention	Rs. 399.20 Lakhs
Location (District, State)	Jharsuguda Block, Lakhanpur Block, Krimira Block, Laikira Block, and Kolabira Block
Number of beneficiaries	Surrounding Villagers
Project Status	Completed
Year of Commencement	2017-18
Year of Completion	2020-21

Plantation Details (Area Wise)

Forest Range	Block	Area	No. of Sapling Plantation
Jharsuguda	Jharsuguda Block	Malimunda VF	13500
		Talmal VF	15500
		DITT School	500
		Kisan Chowk to OMP Road	500
Belpahar	Lakhanpur Block	Thebra VF	7000
		Kodaloi	5000
		Besipali	8000
Barjrajnagar	Jharsuguda and Lakhanpur Block	Barkani VF	10000
		Rengali VF	5000
Bagdihi	Krimira and Laikira Block	Chandimahar (Naxapali)	7000
		Sahaspur VF	5000
		Gurlabahar VF(Patch-1)	9000
		Gurlabahar VF(Patch-2)	4000
Kolabira	Kolabira and Laikira Block	Samasingha VF	5000
		Bahalupatra VF	5000
Total Plantation			100000

*VF (Village Forest)

Key Findings from the survey

Background of Afforestation Activities

	Responses	Mean Score
Q1	Afforestation is establishing a forest, or stand of trees, in an area where there was previously no forest or where the forest cover has been depleted.	4.24
Q2	Afforestation has become a critical tool for addressing a range of environmental challenges, including climate change, deforestation, soil erosion, and biodiversity loss.	4.32
Q3	Careful planning is required to ensure that the right tree species are planted in the right locations to maximize the benefits and minimize any potential negative impacts.	4.39
Q4	The space for mobility of wild animals was shrinking due to deforestation and development of barren lands will be a hope for new habitat for wild animals and reptiles.	4.02

Table 63: Background of Afforestation Activities

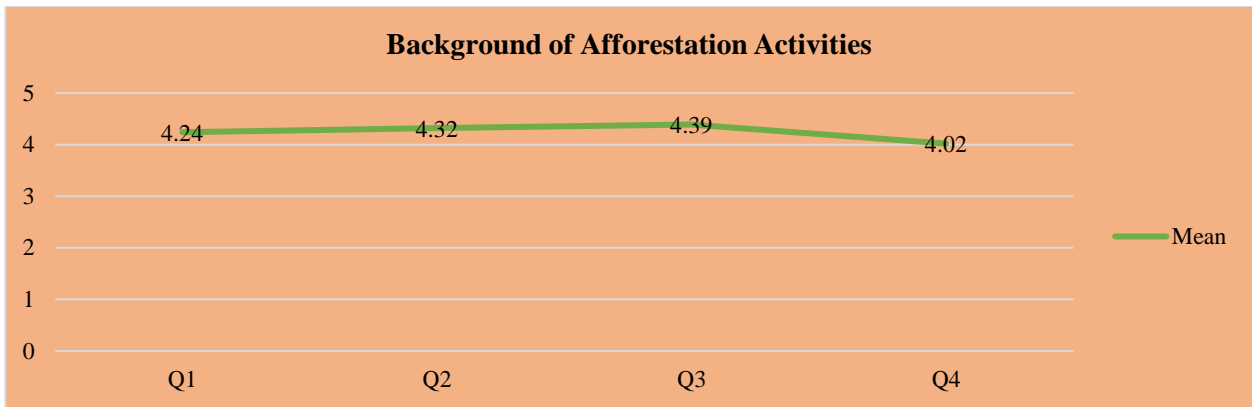


Figure 90: Background of Afforestation Activities

With an average mean score of 4.39, the result indicates that afforestation is establishing a forest, or stand of trees, in an area where there was previously no forest or where the forest cover has been depleted. With an average mean score of 4.32, respondents indicated that afforestation has become a crucial instrument for addressing a variety of environmental challenges, including climate change, deforestation, soil erosion, and biodiversity loss. With an average mean score of 4.39, it was determined that meticulous planning is required to ensure that the right tree species are planted in the right locations in order to maximize the benefits and minimize any potential negative effects. With an average mean score of 4.02, respondents also believed that deforestation and the development of barren lands will provide new habitat for untamed animals and reptiles.

Relevance

	Responses	Mean Score
Q5	MCL realizes the basic need for ecological reestablishment and is now actively implementing afforestation activities to restore the environment.	4.42
Q6	These afforestation efforts help to combat air and noise pollution, they also bring about a reduction in temperature in the surrounding areas.	4.31
Q7	Due to afforestation activities ground level water in the area has been replenished.	4.38
Q8	Afforestation plays a crucial role in promoting environmental sustainability and conserving biodiversity.	4.48
Q9	The afforestation project has also generated employment opportunities for the local community.	3.98
Q10	The ultimate objective of MCL's afforestation program is to leave a positive ecological footprint in the area.	4.05
Q11	MCL's CSR policy is also focusing on afforestation activities for conservation of soil and increase the soil quality and fertility.	4.02

Table 52: Relevance of the Intervention

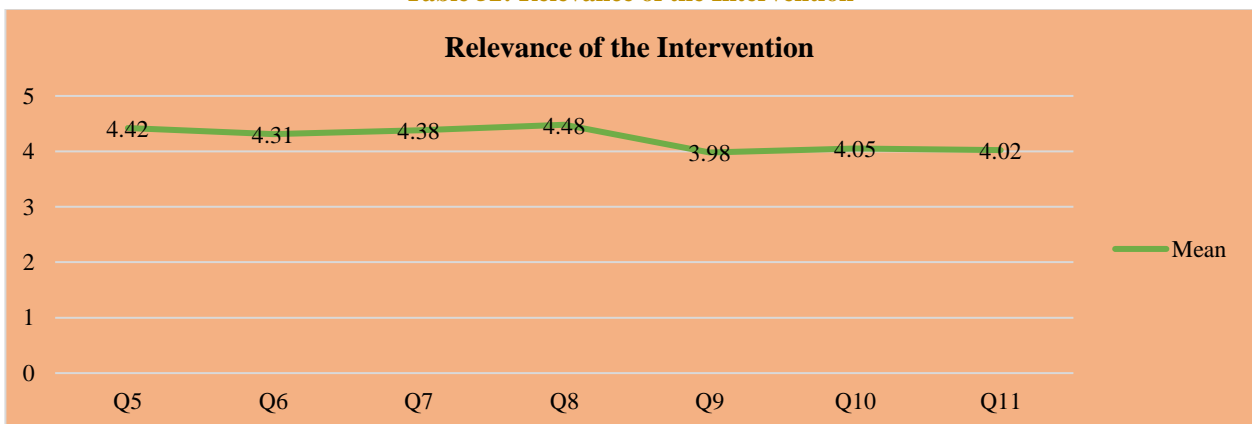


Figure 91: Relevance of the Intervention

MCL actively engages in afforestation to revitalize the environment, according to respondents. A 4.42 mean score corroborated this observation. As shown by an average mean score of 4.31, beneficiaries believe afforestation has reduced pollution and temperature in the surrounding areas. Afforestation has replenished nearby groundwater, earning an average mean score of 4.38. Afforestation also promotes environmental sustainability and biodiversity, with an average mean score of 4.48. An average mean score of 3.98 shows that the afforestation initiative creates local jobs. An average mean score of 4.05 showed that MCL's afforestation initiative's main purpose was to improve the region's ecology. With an average mean score of 4.02, MCL's corporate social responsibility (CSR) strategy prioritizes afforestation efforts to conserve soil and improve soil quality and fertility.

Efficiency

	Responses	Mean Score
Q12	Timely implementation of afforestation activities has been achieved to the level of expectation.	3.95
Q13	The afforestation project was completed within the stipulated timeframe.	3.90
Q14	The project cost was well within the sanctioned limit and offered good value for money.	4.05
Q15	The funds allocated for this intervention were put to optimal use and provided real value in terms of ecological restoration in the area.	4.12
Q16	The afforestation work was carried out under the close supervision and guidance of MCL's CSR department professionals.	3.89

Table 53: Efficiency of the Intervention

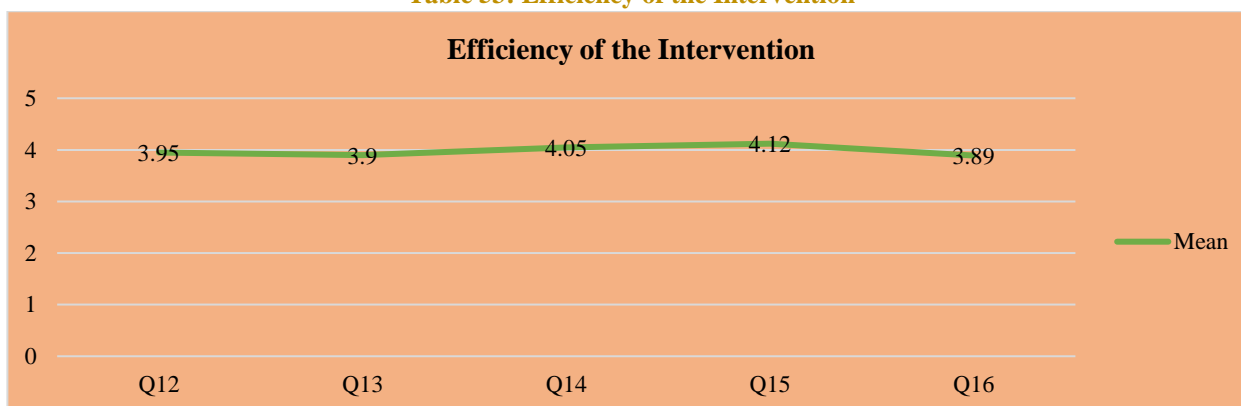


Figure 92: Efficiency of the Intervention

The respondents suggested that timely implementation of afforestation activities has been achieved to the level of expectation with an average mean score of 3.95. It is reported that the afforestation project was completed within the stipulated timeframe with an average mean score of 3.90. The result says the project cost was well within the sanctioned limit and offered good value for money with an average mean score of 4.05. It is found that the funds allocated for this intervention were put to optimal use and provided real value in terms of ecological restoration in the area with an average mean score of 4.12. The respondents agreed that the afforestation work was carried out under the close supervision and guidance of MCL's CSR department professionals with an average mean score of 3.89.

Effectiveness and Uniqueness

	Responses	Mean Score
Q17	The afforestation activities have been conducted in close collaboration with district forest officials and local government representatives, ensuring their proper execution.	4.36
Q18	These afforestation activities have played a crucial role in promoting environmental sustainability and restoring ecological balance.	4.42
Q19	The project has had a positive impact on the protection of flora and fauna, animal welfare, agroforestry, and conservation of natural resources.	4.13
Q20	MCL has successfully implemented this project with active support from the implementing organization.	4.32

Q21	The project was completed ahead of schedule, showcasing MCL's commitment to timely delivery.	4.15
Q22	The very survival rate of saplings planted is quite high as because of caring and continuous monitoring of personnel deployed by the agency.	4.27
Q23	To spread awareness about this intervention, MCL has taken steps to brand and promote it, including placement of a display board in a prominent location.	4.28

Table 54: Effectiveness and Uniqueness of the Intervention

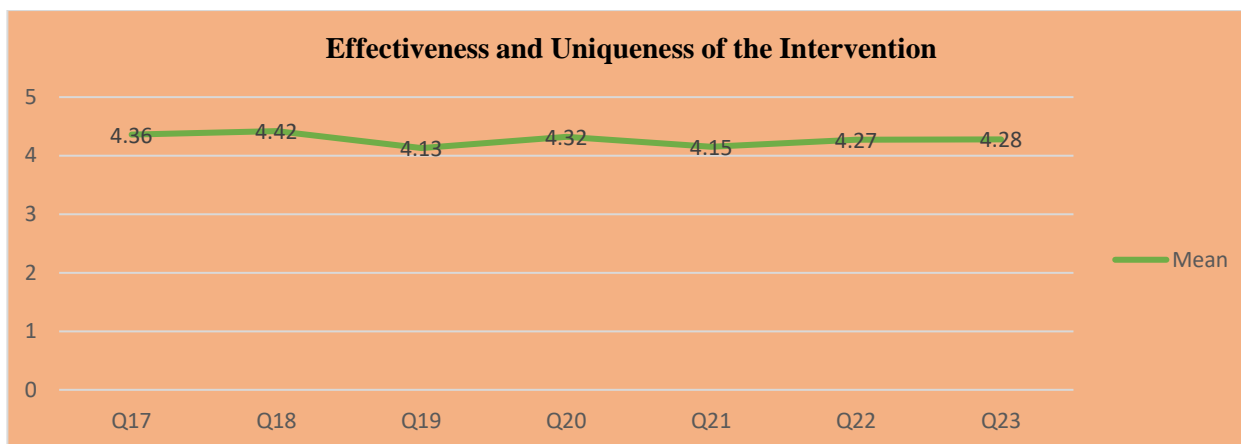


Figure 93: Effectiveness and Uniqueness of the Intervention

Respondents said district forest officials and local government members collaborated on afforestation initiatives. An average mean score of 4.36 indicates that this collaborative strategy has successfully executed these actions. With an average mean score of 4.42, most respondents agreed that these afforestation practices promote environmental sustainability and ecological harmony. The project has been successful in protecting biodiversity, animal welfare, sustainable agriculture, and natural resources. A 4.13 mean score supports this conclusion. Participants gave MCL an average mean score of 4.32, indicating that the implementing organization helped MCL complete this project. The participants' average mean score of 4.15 stated that MCL's punctual delivery was shown by the project's early completion. Research shows that seedlings planted survive well. The agency's staff diligently cares after and monitors this. This observation scored 4.27. MCL also promoted this intervention by strategically installing a display board. The 4.28 average mean score shows these initiatives' success.

Impact

	Responses	Mean Score
Q24	Afforestation activities have played a vital role in reducing air and soil pollution and serve as effective noise barriers.	4.32
Q25	Through these afforestation efforts, MCL has made significant strides in achieving environmental sustainability and restoring ecological balance.	4.39
Q26	Afforestation is also essential for recharging groundwater and reducing temperature of climate of nearby areas by consuming soil moisture.	4.02
Q27	These activities have played a crucial role in the protection of flora and fauna, animal welfare, agroforestry, and conservation of natural resources.	4.04
Q28	The beneficiaries are fully aware of the investment made by MCL in afforestation activities and the positive impact it has had on their environment.	3.67
Q29	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.98

Table 67: Impact of the Intervention

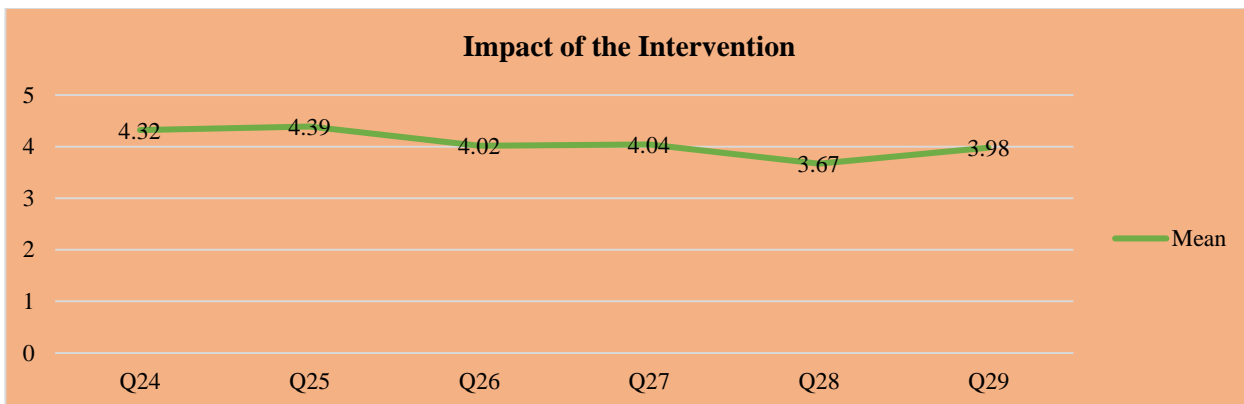


Figure 55: Impact of the Intervention

With an average mean score of 4.32, the respondents claimed that afforestation efforts have been crucial in lowering air and soil pollution and acting as efficient noise barriers. Additionally, according to reports, MCL has achieved environmental sustainability and restored ecological balance, earning an overall mean score of 4.39. With an average mean score of 4.09, the respondents concurred that this afforestation has aided in groundwater recharge and temperature reduction in the surrounding areas. With an average mean score of 4.04, it is also discovered that afforestation has been vital in the preservation of natural resources, animal welfare, the preservation of flora and fauna, and agroforestry. With an average mean score of 3.67, the results show that the respondents are well aware of the investment made by MCL in afforestation efforts and the beneficial impact. With a mean score of 3.98, the beneficiaries once more recognized MCL, Burla's efforts as a good corporate citizen.

Sustainability

	Responses	Mean Score
Q30	Divisional Forest Officer and forest officials are playing proactive role in protection and conservation of samplings planted.	3.95
Q31	The effort by forest department for the growth of the planted saplings is praiseworthy.	4.11
Q32	Awareness and involvement of local community has ensured sustainable afforestation in this region.	3.82

Table 56: Sustainability of the Intervention

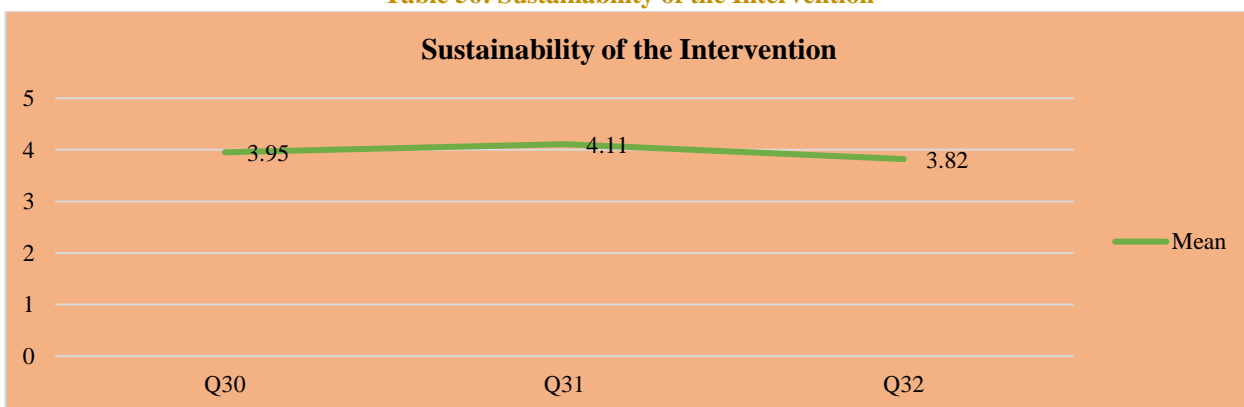


Figure 57: Sustainability of the Intervention

The study reveals that both the divisional Forest Officer and forest officials are playing proactive role in protection and conservation of samplings planted., as indicated by an average mean score of 3.95. It has observed that the efforts that has made by forest department for survival and growth of planted saplings is praiseworthy as indicated in mean response score of 4.11. Furthermore, it is evident that the establishment of awareness is created among the local community as the rightful proprietors of this afforestation endeavor holds significant importance, as indicated by an average mean score of 3.82.

8.5.2 Urban plantation under corporate sector for FY 2017-18 to be executed by DFO, Chandaka Division, Bhubaneswar Division, MCL CSR



Display Board of the intervention at Chandaka Reserve Forest



Intervention site at Chandaka Reserve Forest



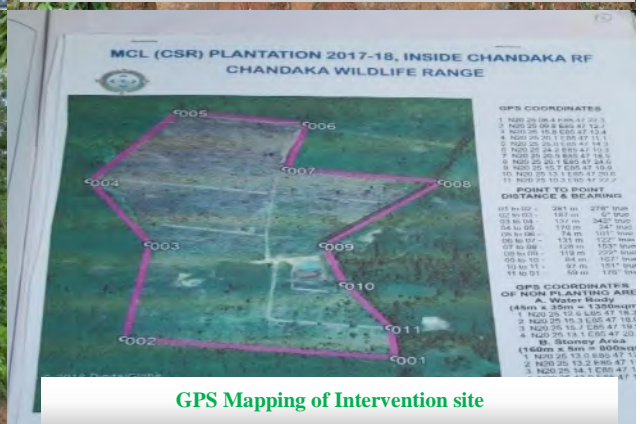
GPS Mapping of Intervention site



Display Board of the intervention at Chandaka Reserve Forest



Display Board of the intervention at Chandaka Reserve Forest



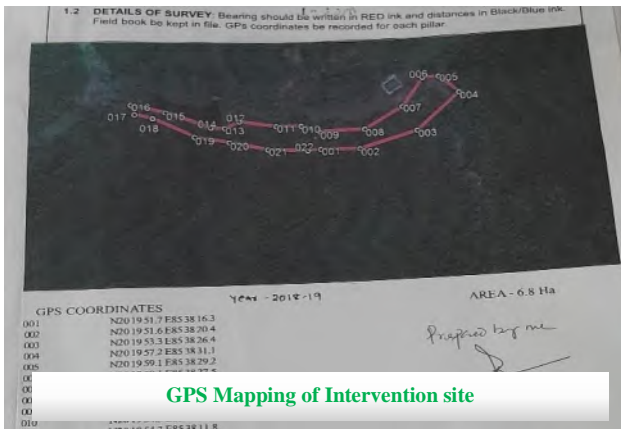
GPS Mapping of Intervention site



Display Board of the intervention at Dampada Reserve Forest



Intervention site at Dampada Reserve Forest



GPS Mapping of Intervention site



Intervention site at Dampada Reserve Forest

Details about this Intervention

Project name	Urban plantation under corporate sector for FY 2017-18 to be executed by DFO, Chandaka Division, Bhubaneswar Division, MCL CSR
Cost of the Intervention	207.74 Lakhs
Location (District, State)	Chandak Reserve Forest, BBSR, Chudangadada RF BBSR, Dampada RF, BBSR
Number of beneficiaries	Surrounding Villagers'
Project Status	Completed
Year of Commencement	2017-18
Year of Completion	2020-21

Plantation Details (Area Wise)

Wildlife Range	Area	No. of Sapling Plantation
Chandaka	Chandak Reserve Forest	15000
	Chudangadada Reserve Forest	20000
Dampada	Dampada Reserve Forest	10000
Total		45000

Key Findings from the survey

Background of Afforestation Activities

	Responses	Mean Score
Q1	Afforestation is establishing a forest, or stand of trees, in an area where there was previously no forest or where the forest cover has been depleted.	4.26
Q2	Afforestation has become a critical tool for addressing a range of environmental challenges, including climate change, deforestation, soil erosion, and biodiversity loss.	4.31
Q3	Careful planning is required to ensure that the right tree species are planted in the right locations to maximize the benefits and minimize any potential negative impacts.	4.18
Q4	The space for mobility of wild animals was shrinking due to deforestation and development of barren lands will be a hope for new habitat for wild animals and reptiles.	4.20

Table 58: Background of Afforestation Activities

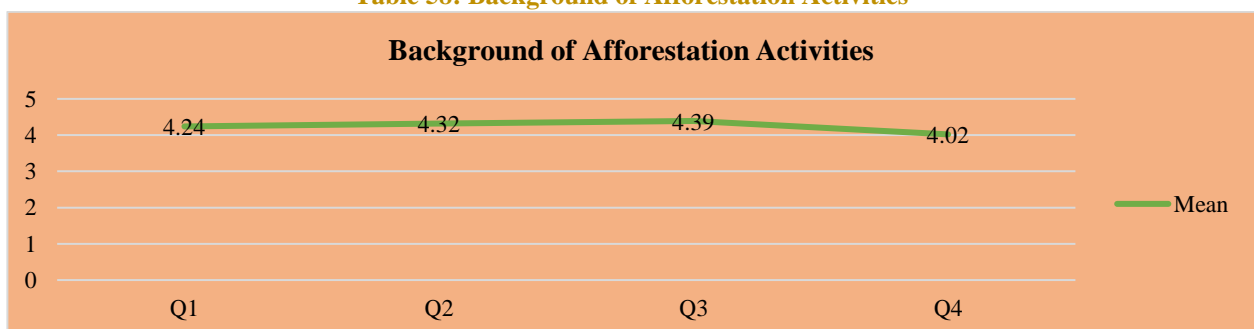


Figure 96: Background of Afforestation Activities

With an average mean score of 4.26, the result indicates that afforestation is establishing a forest, or stand of trees, in an area where there was previously no forest or where the forest cover has been depleted. As suggested by respondents, afforestation is a crucial tool for addressing a variety of environmental challenges, including climate change, deforestation, soil erosion, and biodiversity loss, with a mean score of 4.31. With an average mean score of 4.18, it was determined that meticulous planning is required to ensure that the right tree species are planted in the right locations to maximize the benefits and minimize the potential negative impacts. With an average mean score of 4.20, respondents also believed that deforestation and the development of barren lands will provide new habitat for untamed animals and reptiles.

Relevance

	Responses	Mean Score
Q5	MCL realizes the basic need for ecological reestablishment and is now actively implementing afforestation activities to restore the environment.	4.35
Q6	These afforestation efforts help to combat air and noise pollution, they also bring about a reduction in temperature in the surrounding areas.	4.42
Q7	Due to afforestation activities ground level water in the area has been replenished.	4.21
Q8	Afforestation plays a crucial role in promoting environmental sustainability and conserving biodiversity.	4.25
Q9	The afforestation project has also generated employment opportunities for the local community.	4.36
Q10	The ultimate objective of MCL's afforestation program is to leave a positive ecological footprint in the area.	4.10
Q11	MCL's CSR policy is also focusing on afforestation activities for conservation of soil and increase the soil quality and fertility.	4.08

Table 59: Relevance of the Intervention

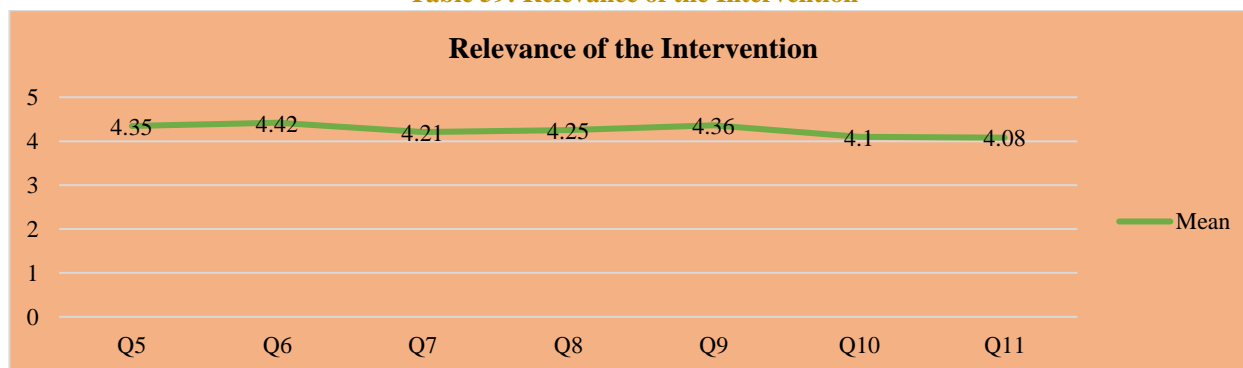


Figure 97: Relevance of the Intervention

An average mean score of 4.35 showed that MCL realizes the need for ecological restoration and is actively involved in afforestation to restore the environment. As shown by an average mean score of 4.42, beneficiaries believe these afforestation activities reduce pollution and temperature. Afforestation has also replenished groundwater, with an average mean score of 4.21. According to an average mean score of 4.25, afforestation promotes environmental sustainability and biodiversity. An average means score of 4.36 shows that the afforestation initiative creates local jobs. The participants' average mean score of 4.10 suggested that MCL's afforestation program's main purpose was to improve the region's ecology. With an average mean score of 4.08, MCL's corporate social responsibility (CSR) strategy emphasizes afforestation to save soil and improve soil quality and fertility.

Efficiency

	Responses	Mean Score
Q12	Timely implementation of afforestation activities has been achieved to the level of expectation.	4.02
Q13	The afforestation project was completed within the stipulated timeframe.	4.05
Q14	The project cost was well within the sanctioned limit and offered good value for money.	3.98

Q15	The funds allocated for this intervention were put to optimal use and provided real value in terms of ecological restoration in the area.	3.92
Q16	The afforestation work was carried out under the close supervision and guidance of MCL's CSR department professionals.	3.85

Table 60: Efficiency of the Intervention

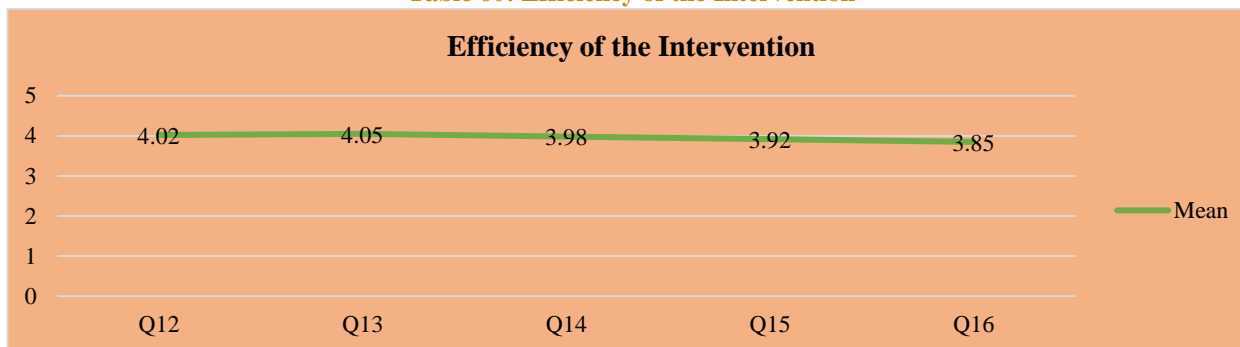


Figure 98: Efficiency of the Intervention

With an average mean score of 4.02, respondents indicated that timely implementation of afforestation activities met or exceeded expectations. It is reported that the afforestation project was completed within the stipulated timeframe with an average mean score of 4.05. With an average mean score of 3.98, the result indicates that the project cost was well within the authorized limit and offered good value for money. With an average mean score of 3.92, it is determined that the funds allocated for this intervention were utilized optimally and provided genuine value in terms of ecological restoration in the area. With an average mean score of 3.895%, the respondents concurred that the afforestation work was conducted under the close supervision and direction of MCL's CSR department professionals.

Effectiveness and Uniqueness

	Responses	Mean Score
Q17	The afforestation activities have been conducted in close collaboration with district forest officials and local government representatives, ensuring their proper execution.	4.20
Q18	These afforestation activities have played a crucial role in promoting environmental sustainability and restoring ecological balance.	4.11
Q19	The project has had a positive impact on the protection of flora and fauna, animal welfare, agroforestry, and conservation of natural resources.	4.13
Q20	MCL has successfully implemented this project with active support from the implementing organization.	4.23
Q21	The project was completed ahead of schedule, highlighting MCL's commitment to timely delivery.	4.01
Q22	The very survival rate of saplings planted is quite high as because of caring and continuous monitoring of personnel deployed by the agency.	3.85
Q23	To spread awareness about this intervention, MCL has taken steps to brand and promote it, including placement of a display board in a prominent location.	3.89

Table 61: Effectiveness and Uniqueness of the Intervention

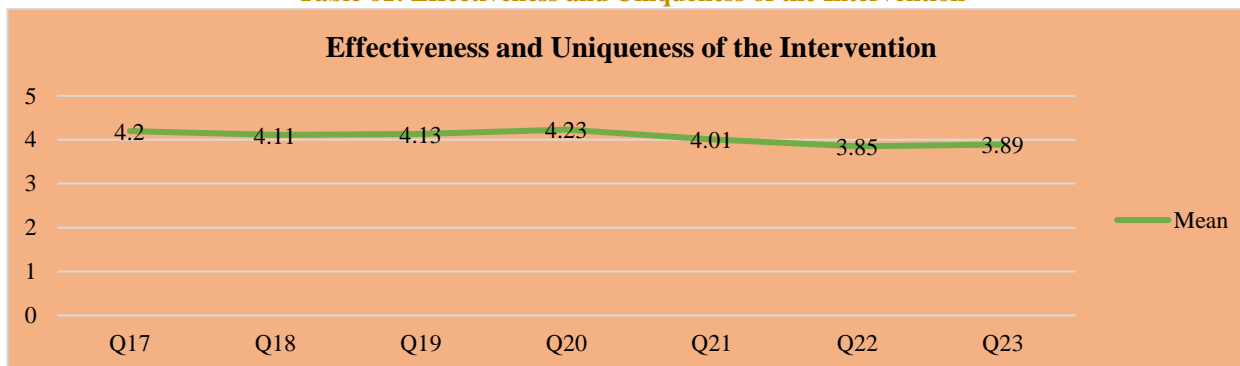


Figure 99: Effectiveness and Uniqueness of the Intervention

Respondents indicated; with an average mean score of 4.20, that district forest officials and local government representatives collaborated to execute afforestation initiatives effectively. The majority of respondents, with an average mean score of 4.11, believed that afforestation has promoted environmental sustainability and ecological balance. With an average mean score of 4.13, the initiative enhanced flora and fauna protection, animal welfare, agroforestry, and natural resource conservation. The average score for this project's implementation by MCL with active support from the implementing organization was 4.23. Respondents agreed, with an average mean score of 4.01 that MCL's prompt delivery contributed to the early completion of the project. The survival rate of seedlings cared for and monitored by agency employees is 3.85 percent. MCL raised awareness of this intervention with a mean average score of 3.89 by situating a prominent display board.

Impact

	Responses	Mean Score
Q24	Afforestation activities have played a vital role in reducing air and soil pollution and serve as effective noise barriers.	3.96
Q25	Through these afforestation efforts, MCL has made significant strides in achieving environmental sustainability and restoring ecological balance.	4.05
Q26	Afforestation is also essential for recharging groundwater and reducing temperature of climate of nearby areas by consuming soil moisture.	4.15
Q27	These activities have played a crucial role in the protection of flora and fauna, animal welfare, agroforestry, and conservation of natural resources.	4.13
Q28	The beneficiaries are fully aware of the investment made by MCL in afforestation activities and the positive impact it has had on their environment.	3.56
Q29	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	3.59

Table 62: Impact of the Intervention

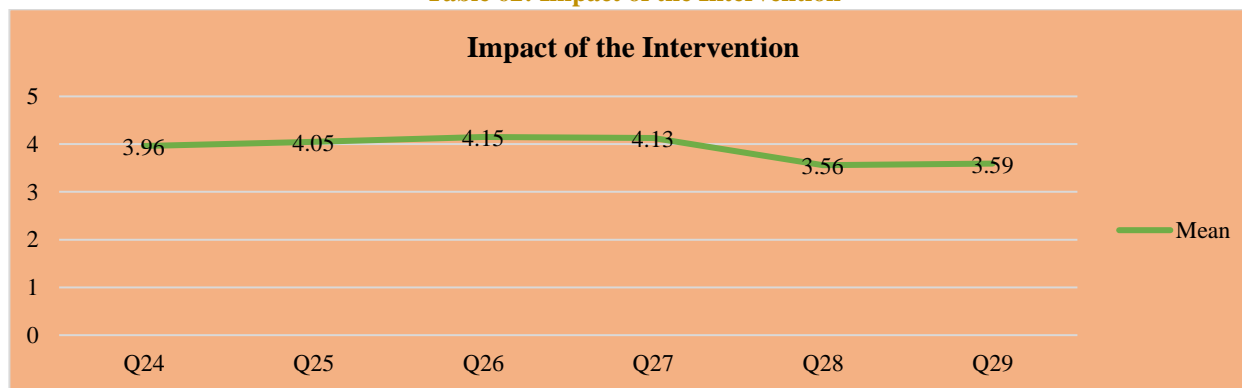


Figure 100: Impact of the Intervention

According to the respondents, afforestation activities have been instrumental in mitigating air and soil pollution, as well as serving as effective noise barriers. The average mean score for this observation was 3.96. It has been reported that MCL has made notable progress in attaining environmental sustainability and restoring ecological balance, as evidenced by an average mean score of 4.05. The participants reached a consensus that the implementation of afforestation measures has positively impacted groundwater recharge and temperature reduction in the surrounding regions, as indicated by an average mean score of 4.15. It has been observed that afforestation has played a significant role in the preservation of flora and fauna, animal welfare, agroforestry, and conservation of natural resources, with an average mean score of 4.13. According to the findings, the respondents demonstrate a high level of awareness regarding MCL's investment in afforestation activities and acknowledge the positive impact. The average mean score obtained is 3.56. The beneficiaries have expressed their appreciation for the efforts of MCL, Burla as a responsible corporate citizen, with an average mean score of 3.59.

Sustainability

	Responses	Mean Score
Q30	Divisional Forest Officer and forest officials are playing proactive role in protection and conservation of samplings planted.	4.57
Q31	The effort by forest department for the growth of the planted saplings is praiseworthy.	4.62
Q32	Awareness and involvement of local community has ensured sustainable afforestation in this region.	4.48

Table 63: Sustainability of the Intervention

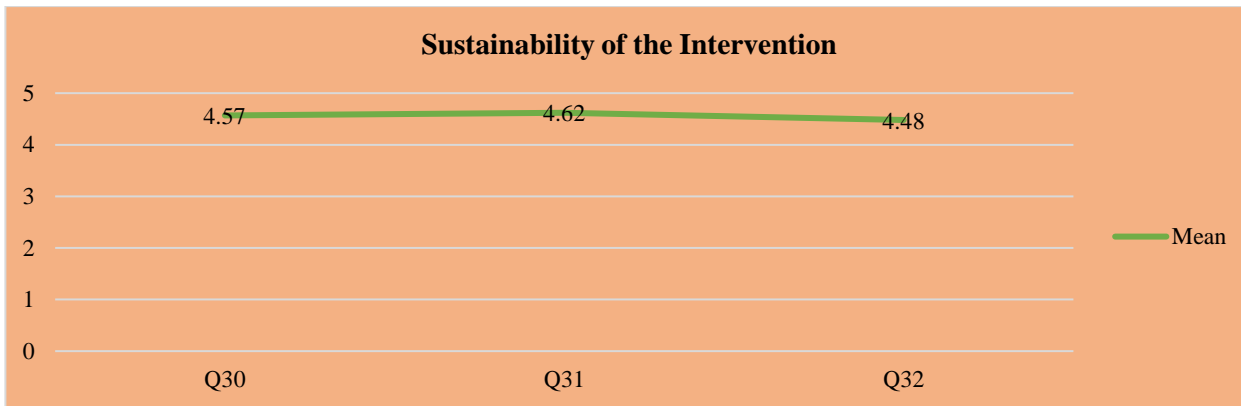


Figure 101: Sustainability of the Intervention

The study reveals that both the divisional Forest Officer and forest officials are playing proactive role in protection and conservation of samplings planted., as indicated by an average mean score of 4.57. It has observed that the efforts that has made by forest department for survival and growth of planted saplings is praiseworthy as indicated in mean response score of 4.62. Furthermore, it is evident that the establishment of awareness is created among the local community as the rightful proprietors of this afforestation endeavor holds significant importance, as indicated by an average mean score of 4.48.

8.5 Promotion of Tourism

The promotion of tourism involves activities aimed at attracting visitors and showcasing the unique features and attractions of a destination. It focuses on marketing efforts, infrastructure development, cultural preservation, and creating memorable experiences for tourists. By promoting tourism, destinations can stimulate economic growth, create employment opportunities, preserve cultural heritage, and foster cross-cultural understanding and appreciation. Two promotional activities for tourism have done which are below:

- Ropeway project from Nehru Park to Gandhi Minar at Hirakud side Dam at Sambalpur under CSR of MCL.
- Provision of funds under CSR activity for operation of toy train in Nandankanan Zoological Park, Bhubaneswar

Objective of this Intervention

Followings are the important objectives of promotion of tourism:

- To showcase unique attractions, landmarks, and cultural heritage.
- To develop tourism infrastructure to accommodate and enhance visitor experiences.
- To create and promote diverse tourism activities and packages.
- To collaborate with local businesses to provide quality tourism services.
- To support community engagement and participation in tourism development.
- To stimulate economic growth and generate employment opportunities.

Research methodology

This study collected and analyzed data using qualitative and quantitative methods. Surveys, interviews, direct observation, and concentrated group discussions collect primary data from the target audience. Field investigators distribute and monitor schedules to get responses. Open-ended interactions with MCL's CSR coordinators, implementing agency officials, Gram Panchayat leaders, and recipients provided additional data.

Phase I: Sampling Procedure

The local communities, MCL's CSR coordinators, officials of the implementing agencies, leaders of Gram Panchayats and the sampling frame of the present study and purposive sampling technique was used for the study.

Phase II: Determination of Sample Size

By using above sample size determination formula, we have calculated the sample size. Therefore, under this intervention 371 samples were collected relating to two CSR interventions.

8.6.1 Ropeway project from Nehru Park to Gandhi Minar at Hirakud side Dam at Sambalpur under CSR of MCL.



Display Board regarding intervention at Nehru Park, Sambalpur



Ropeway Facility at Nehru Park Sambalpur



Interaction with the Tourists regarding experience in Ropeway



Interaction with the operating staffs of Ropeway

Details about this Intervention

Project name	Ropeway project from Nehru Park to Gandhi Minar at Hirakud side Dam at Sambalpur under CSR of MCL.
Cost of the Intervention	Rs. 787.41 Lakhs
Location (District, State)	Hirakud Dam, Sambalpur
Number of beneficiaries	Tourist and Surrounding Villagers
Project Status	Completed

Year of Commencement	2013-14
Year of Completion	2018-19

Key Findings from the survey

Uses of Ropeway for the Beneficiaries

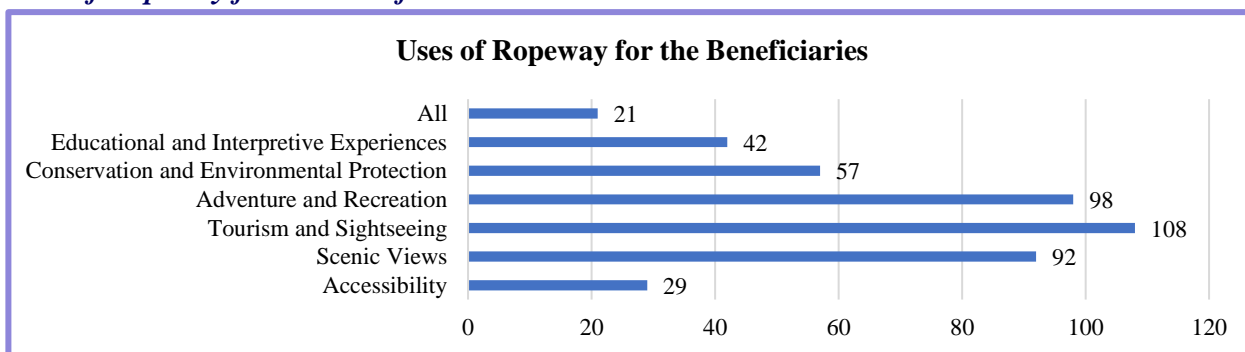


Figure 102: Uses of Ropeway for the Beneficiaries

The majority of those who will benefit from ropeways (108 or 84%) agree that tourism and sightseeing are its primary uses. Ninety-eight percent of respondents said it's fun to use for outdoor activities. From the respondents 92 (72%), 57 (44%), and 42 (33%) people are in agreement that ropeways are useful for sightseeing, preserving the environment, and providing educational opportunities. In addition, 21 participants (16%) agreed that ropeways help with the aforementioned goals.

Background of Ropeway Project

	Responses	Mean Score
Q1	The ropeway facility was a highly demanded facility for attraction of tourists.	4.47
Q2	The absence of this facility in the past has an impact on motivational aspect of the tourists.	4.32
Q3	The construction of a ropeway requires a complete set of vehicles, lines, towers, and other equipment.	4.56
Q4	Scarcity of adequate fund was an obstacle to extend this facility.	4.21

Table 64: Background of Ropeway Project

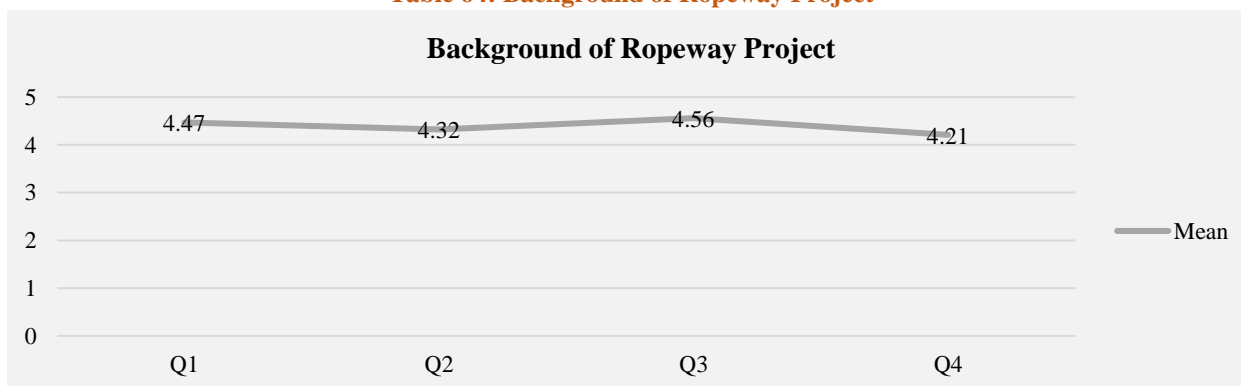


Figure 103: Background of Ropeway Project

With a mean score of 4.47 out of 5, respondents agreed that ropeway facilities are in high demand as tourist attractions. They rated the facility's absence in the past as a negative influence on visitors' motivation (4.32 on a 5-point scale). Construction of a ropeway is said to necessitate a mean score of 4.56 across the board for the trucks, lines, towers, and other equipment involved. With a mean score of 4.21 out of 5, respondents agreed that a lack of sufficient funding was preventing the expansion of this facility.

Relevance

	Responses	Mean Score
Q5	The construction of a ropeway system will significantly increase the number of tourists	4.29

	visiting to the city, both from within and outside of the state.	
Q6	The different components of the ropeway system, including vehicles, lines, and towers, are constructed using high-quality materials to ensure their durability and safety.	4.12
Q7	The creation of a ropeway system will not only enhance the tourism industry but also create numerous livelihood opportunities for the local population and generate employment.	4.38
Q8	This ropeway system is playing a critical role in promoting eco-friendly tourism and attracting more visitors to the Hirakud Dam area.	4.32
Q9	This facility helped school students to learn about Hirakud Dam and its importance in socio-economic development of the beneficiaries.	3.96
Q10	The construction of the ropeway facility was carried out in consultation with the managing authority of the dam and local government representatives, ensuring that all regulations were adhered to.	4.18
Q11	MCL's CSR policy is committed to supporting the growth of the tourism industry in the state and investing in sustainable development initiatives.	4.15

Table 65: Relevance of the Intervention

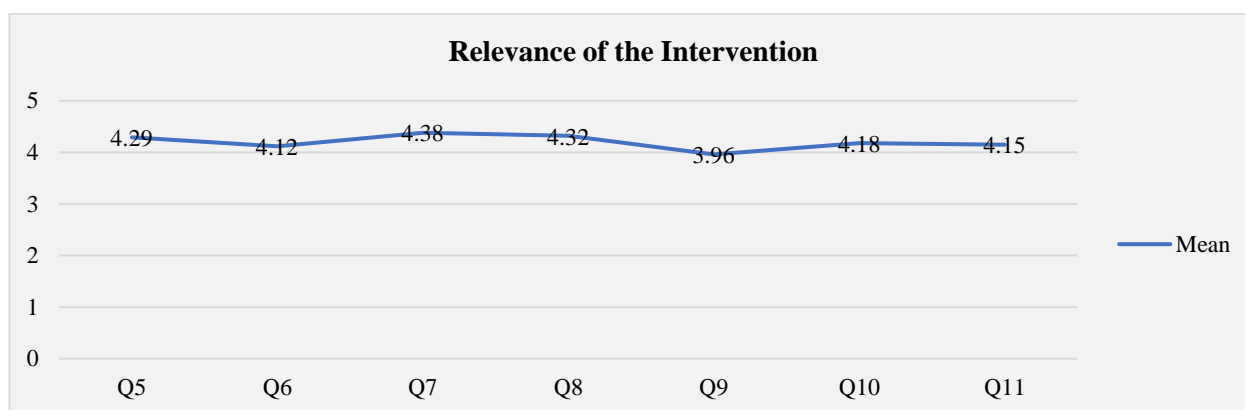


Figure 104: Relevance of the Intervention

The respondents agreed that a ropeway system would increase local and non-local tourism to the city. Based on an average mean score of 4.29. Again, it is accepted that the ropeway system's cars, ropes, and towers are carefully built with high-quality materials. This thorough attention to detail ensures ropeway system lifespan and safety. This facet averages 4.12 points. A ropeway system would boost tourism and provide local jobs, according to respondents. This opinion scored 4.38. With an average, mean score of 4.32, the Ropeway system is helping promote eco-friendly tourism and draw more people to the Hirakud Dam area. The survey participants also agreed that Hirakud Dam knowledge in the curriculum improved schoolchildren's learning. 3.96 mean scores supported this conclusion. The answers said the ropeway facility was built with the dam's governing authority and local government representatives to comply with requirements. The mean score was 4.18. MCL's CSR strategy appears to support state tourism growth and sustainable development. A 4.15 mean score reflects this devotion.

Efficiency

	Responses	Mean Score
Q12	The construction of the ropeway facility has met expectations, providing the sense of value for money.	3.94
Q13	The construction work was completed within the designated timeline, ensuring that the project was delivered on schedule.	4.04
Q14	The cost of the Intervention was reasonable and remained within the authorized budget.	4.10
Q15	The funds allocated for this initiative were put to good use, creating substantial value, and promoting the growth of the tourism and hospitality in Odisha.	4.08
Q16	The construction work was closely supervised and monitored by the experts of MCL's CSR department, ensuring that all objectives were met.	4.26

Table 66: Efficiency of the Intervention

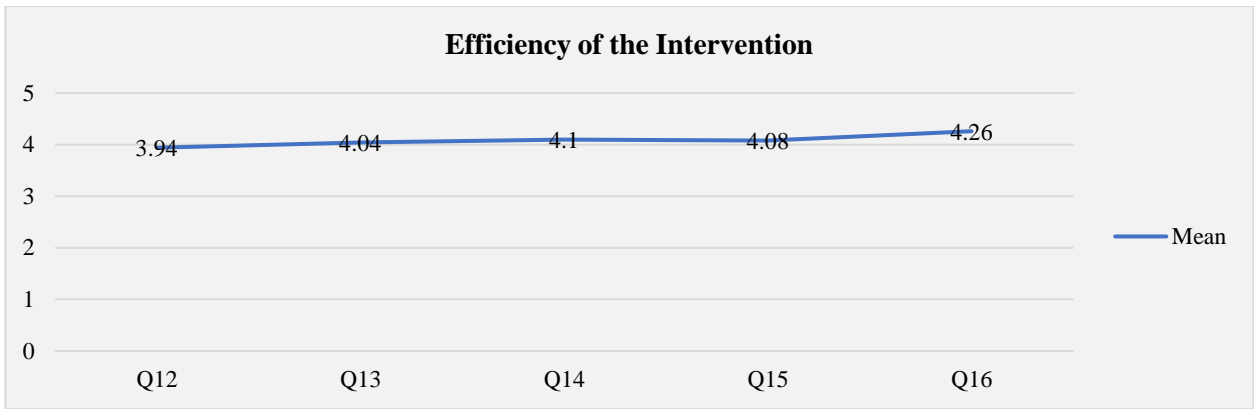


Figure 105: Efficiency of the Intervention

The respondents supported that the construction of the ropeway facility has met expectations, providing the sense of value for money with an average mean score of 3.94. Again, they agreed that the construction work was completed and delivered within the designated time with an average mean score of 4.04. Most respondents agreed that the cost of the project was reasonable and remained within the authorized budget with an average mean score of 4.04. The result says the funds allocated for this initiative were put to good use for creating and promoting the growth of substantial tourism with an average mean score of 4.08. It is reported that the construction work was closely supervised and monitored by the experts of MCL's CSR department, ensuring that all objectives were met with an average mean score of 4.26.

Effectiveness and Uniqueness

	Responses	Mean Score
Q17	The facilities provided through the Ropeway are of high quality, offering comfort, attractiveness, and impressive features.	4.35
Q18	MCL successfully delivered this project with the active support of the agency entrusted with its construction.	4.26
Q19	The project was completed ahead of schedule, demonstrating MCL's commitment to delivering quality work in a timely manner.	4.34
Q20	MCL has focused on branding and awareness by placing of a display board about the intervention extended.	4.02

Table 67: Effectiveness and Uniqueness of the Intervention

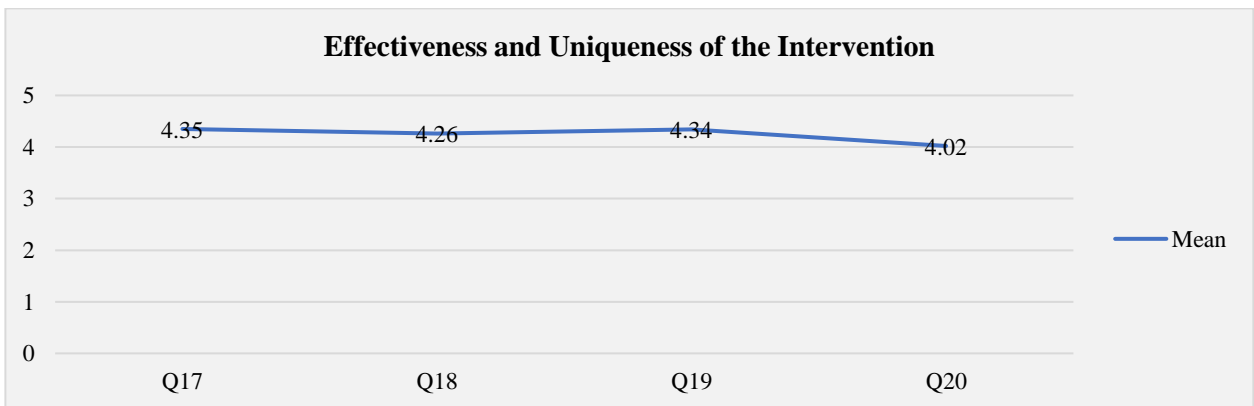


Figure 106: Effectiveness and Uniqueness of the Intervention

Most respondents agreed that the facilities in Ropeway are of high quality, offering comfort, attractiveness, and impressive features with an average mean score of 4.35. The respondents supported that MCL successfully delivered this project with the active support of the agency entrusted with its construction with an average mean score of 4.26. Again, they agreed that the project was completed ahead

of schedule with an average mean score of 4.34. It is found that MCL has focused on branding and awareness by placing a display board about the intervention extended with an average mean score of 4.02.

Impact

	Responses	Mean Score
Q21	The construction of the ropeway has had a tangible impact on tourism in the region, as evidenced by the increased number of visitors since its opening.	4.12
Q22	The facility has also helped school students to gain a better understanding of biodiversity and ecological balance.	3.68
Q23	The construction of the ropeway has created direct and indirect employment opportunities for local people, which is beneficial throughout the year.	4.35
Q24	The beneficiaries are grateful for the investment made by MCL towards the construction of the ropeway, which has had a positive impact on the local economy and tourism industry.	4.08
Q25	Users and beneficiaries have expressed their appreciation for the efforts of MCL, Burla in their role as responsible corporate citizen, contributing to the sustainable development of the region.	4.21

Table 68: Impact of the Intervention

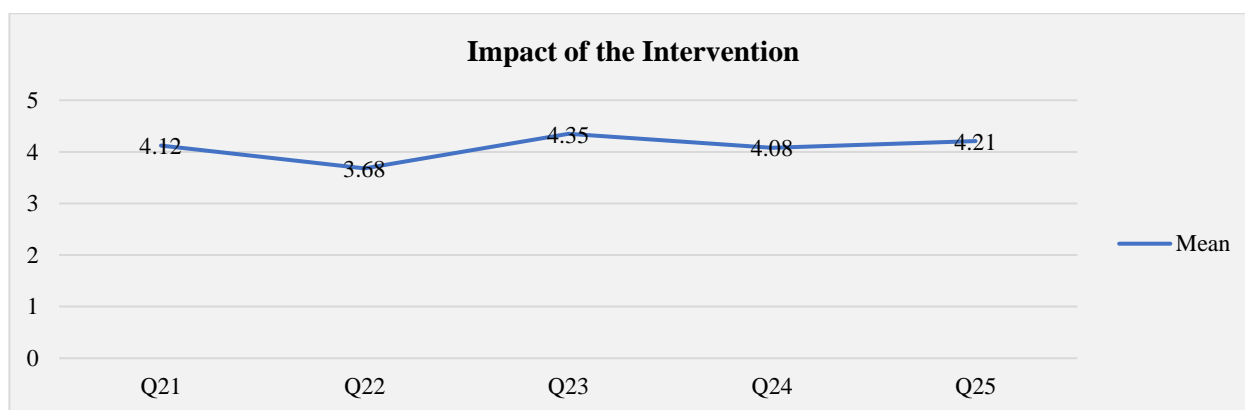


Figure 107: Impact of the Intervention

The construction of the ropeway has been observed to have a discernible influence on tourism in the region, as indicated by the rise in visitor numbers subsequent to its inauguration, with an average mean score of 4.12. According to reports, the facility has facilitated an enhanced comprehension of biodiversity and ecological equilibrium among school students, as evidenced by an average mean score of 3.68. The respondents expressed their support for the construction of the ropeway, highlighting the positive impact it has had on generating employment opportunities for the local population. The average mean score assigned to this aspect was 4.35. The recipients expressed their gratitude for the investment made by MCL in the development of the ropeway infrastructure, which has yielded a favorable outcome on the regional economy, as evidenced by an average mean score of 4.08. Both tourists and residents have conveyed their gratitude for the endeavors of MCL, Burla in facilitating the sustainable development of the area with a mean score of 4.21, on average.

Sustainability

	Responses	Mean Score
Q26	The office of District Collector has focused on periodic inspection, repair and maintenance of the ropeway at Hirakud Dam.	3.45
Q27	The competent authority also able to utilize the revenue generated through this intervention for smooth functioning of this measure and long-term functioning.	3.56

Table 69: Sustainability of the Intervention

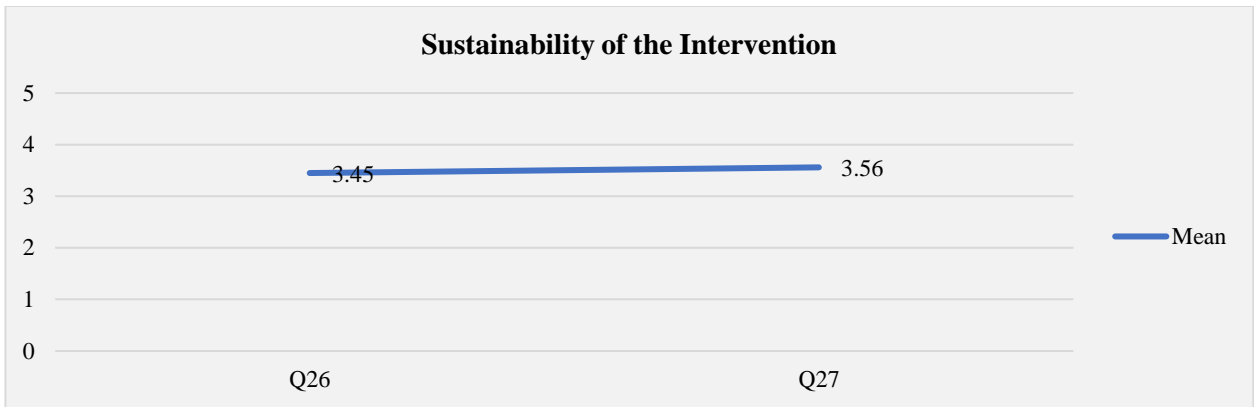


Figure 108: Sustainability of the Intervention

According to the respondents, it is imperative to conduct regular inspections, repairs, and maintenance on the ropeway by concerned authority in order to guarantee uninterrupted and secure experiences for tourists who visit Hirkud Dam. This recommendation received an average mean score of 3.45. The findings indicate that the revenue generated by this intervention is getting utilized to sustain the facility in operational mode, as evidenced by an average mean score of 3.56.

8.6.2 Provision of funds under CSR activity for operation of toy train in Nandankanan Zoological Park, Bhubaneswar



Details about this Intervention

Project name	Provision of funds under CSR activity for operation of toy train in Nandankanan Zoological Park, Bhubaneswar
Cost of the Intervention	Rs. 300.00 lakhs
Location (District, State)	Nadankanan, Bhubaneswar
Number of beneficiaries	Tourist and Surrounding Villagers
Project Status	Completed
Year of Commencement	2016-17
Year of Completion	2020-21

Key Findings from the survey

Background of Toy Train Project

	Responses	Mean Score
Q1	Toy train facility is a major attraction for children and young tourists.	4.58
Q2	Toy train facility was in defunct condition for the period August 2014 to March 2021.	4.63
Q3	The engine, coaches and track needed for complete replacement for functioning of this measure.	4.36
Q4	Non-functional of the toy train facility has an adverse effect on attraction of tourists from within and outside of the state.	4.51

Table 70: Background of Toy Train Project

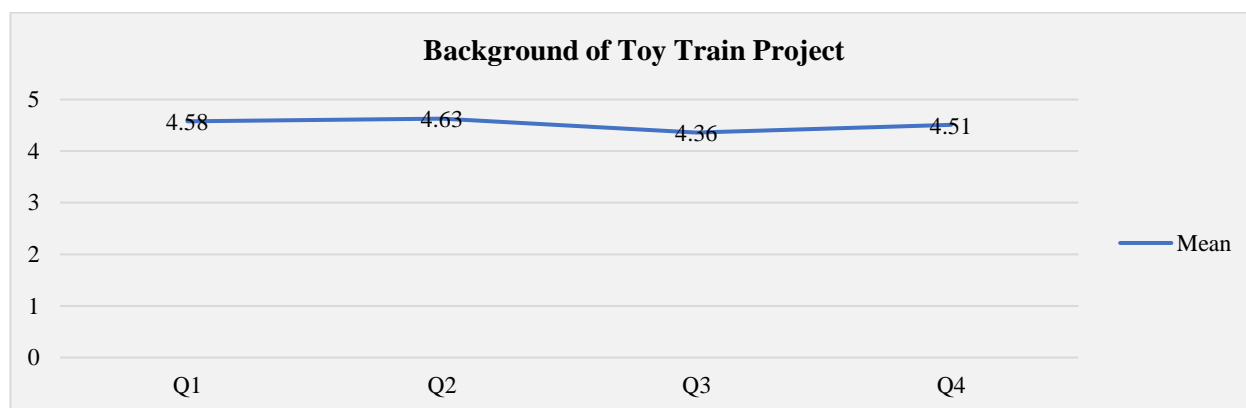


Figure 109: Background of Toy Train Project

According to the respondents, the toy train facility is highly regarded as a significant attraction for children and young tourists, as evidenced by an average mean score of 4.58. According to reports, the toy train facility was found to be non-operational from August 2014 to March 2021, with an average mean score of 4.63. According to the respondents, a complete replacement of the engine, coaches, and track is necessary for the proper functioning of this measure. The average mean score obtained was 4.36. It has been observed that the malfunctioning of the toy train facility negatively impacts the attraction of tourists, both local and non-local, with an average mean score of 4.51.

Relevance

	Responses	Mean Score
Q5	Focus on reengineering of toy train and track has increased number of tourists visiting in each year since it is operational.	4.26
Q6	Train engine, coach and tracks are constructed with materials of good quality and standards.	3.28
Q7	The construction and repairing of toy train and tracks helps in generating local employment during the period of reconstruction.	4.11
Q8	This toy train helping Nandankanan Zoo in gaining more tourist and boosting eco-friendly	4.29

	tourism.	
Q9	This facility has helped the school students in getting exposure to biodiversity and wildlife eco-system.	3.94
Q10	MCL's CSR policy has also given emphasis on boosting the tourism sector in the state.	4.32

Table 71: Relevance of the Intervention

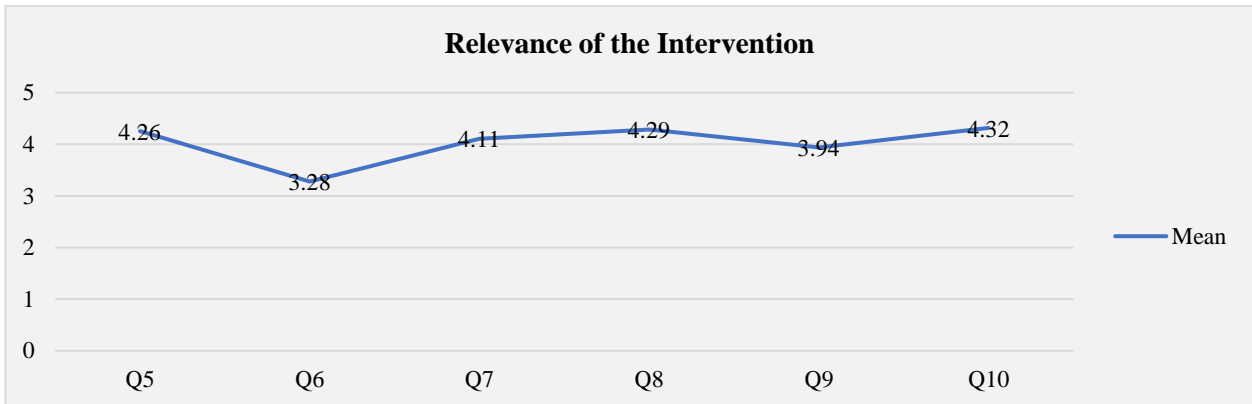


Figure 110: Relevance of the Intervention

As shown by an average mean score of 4.26, participants agreed that the toy train and track have consistently increased tourist attendance since its start. An average mean score of 3.28 shows that the engine, coach, and tracks were built with high-quality materials. During toy train and track restoration, local employment increased, according to reports. This period's mean score was 4.11. An average mean score of 4.29 showed that the toy train has helped Nandankanan Zoo attract more guests and promote eco-friendly tourism. Respondents gave the toy train facility an average mean score of 3.94 for exposing schoolchildren to biodiversity and wildlife environments. As shown by an average mean score of 4.32, MCL's corporate social responsibility (CSR) policy has prioritized state tourism.

Efficiency

	Responses	Mean Score
Q11	The facility extended in the shape of modernization of toy train facility is up to the level of satisfaction and value for money.	3.24
Q12	The reconstruction work was completed in due course of time.	4.26
Q13	Project cost was quite appropriate within the sanctioned limit.	3.94
Q14	Optimum utilization of fund allocated for this intervention and true value addition in promotion of tourism and hospitality sector.	4.13
Q15	The construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL.	4.05

Table 72: Efficiency of the Intervention

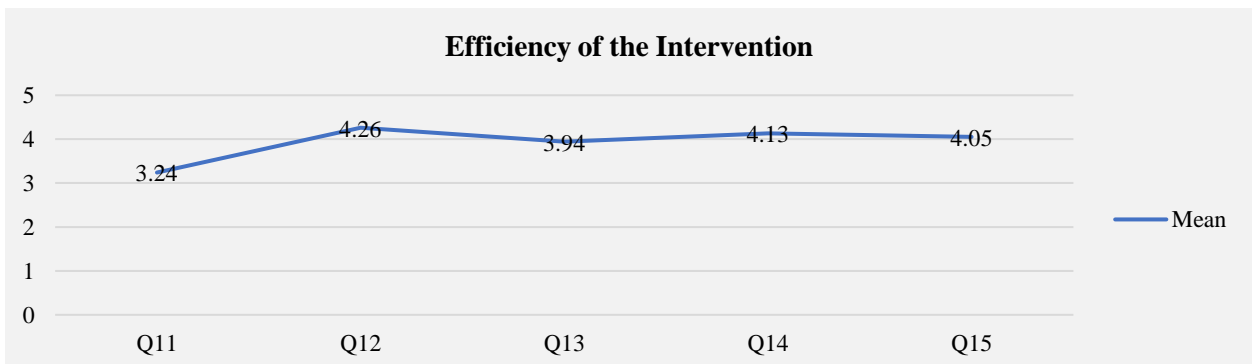


Figure 111: Efficiency of the Intervention

The respondents supported that the facility extended in the shape of modernization of toy train facility is up to the level of satisfaction and value for money with an average mean score of 3.24. Again, they agreed that the construction work was completed and delivered within the designated time with an average mean score of 4.26. The respondents said the project cost was quite appropriate within the sanctioned limit with an average mean score of 3.94. It is reported that the optimum utilization of funds allocated for this intervention and true value addition in promotion of tourism with an average mean score of 4.13. As the respondents said, the construction work was completed under close guidance and monitoring of the CSR dept. professionals of MCL with an average mean score of 4.05.

Effectiveness and Uniqueness

	Responses	Mean Score
Q16	The toy train and tracks are properly constructed in consultation with the officials of Nandankanan Zoo.	4.28
Q17	The new facilities extended in the Toy Train are comfortable, attractive, and praiseworthy.	3.59
Q18	MCL has successfully commissioned this intervention with active support from the agency given for reconstruction.	4.31
Q19	The project was completed before the scheduled time.	4.18
Q20	MCL has focused on branding and awareness by placing a display board about this intervention.	4.38

Table 73: Effectiveness and Uniqueness of the Intervention

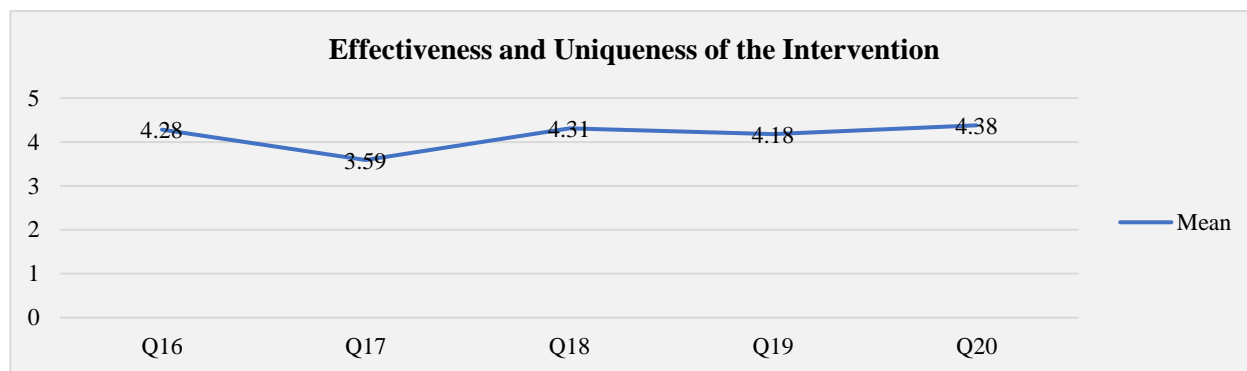


Figure 112: Effectiveness and Uniqueness of the Intervention

The respondents agreed that the new facilities extended in the toy train are comfortable, attractive, and praiseworthy with an average mean score of 3.59. The respondents agreed that the toy train facilities constructed in consultation with the officials of Nandankanan zoo with an average mean score of 4.28. It is also reported that MCL has successfully commissioned this intervention with active support from the agency given for reconstruction with an average mean score of 4.31. It was found that the project was completed before the scheduled time with an average mean score of 4.18. Again, the respondents supported that MCL has focused on branding and awareness by placing a display board about this intervention with an average mean score of 4.38.

Impact

	Responses	Mean Score
Q21	Reconstruction of the toy train along with repairing of the track has evidenced for increasing number of children and young tourists visit since the day of reopening.	4.32
Q22	This will help the school going students to understand about biodiversity and wildlife ecosystem with firsthand experience.	3.97
Q23	The measures are quite helpful for local people in generating employment opportunities throughout the year directly and indirectly.	4.02
Q24	The beneficiaries are aware about the investment made by MCL for construction of toy train and tracks.	4.37
Q25	The amount of revenue generated has increased on yearly basis as because of more no. of tourists visit the Zoo.	4.56

Q26	The users/beneficiaries have appreciated the effort of MCL, Burla as a responsible corporate citizen.	4.05
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Table 74: Impact of the Intervention

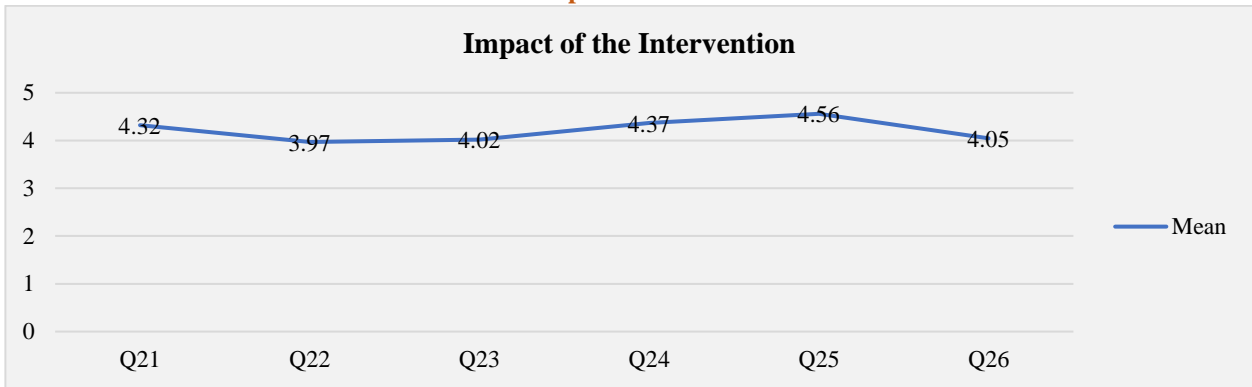


Figure 113: Impact of the Intervention

Since the day of the reopening, the mean score has grown to 4.32 as more children and young tourists have come to see the newly renovated toy train and repaired track. It has also been stated that students' average mean score for understanding biodiversity and animal ecosystems after having direct contact with them is 3.97. Respondents in favor of the idea that it helped locals generate year-round direct and indirect employment opportunities gave an average mean score of 4.02. The average response of the respondents on MCL's timely support and investment for extension of toy train and repairing of tracks is 4.37, indicating that they are aware of it. More tourists, who rate their experience on average 4.56 out of 5, which was supported by more revenue collection. The users and beneficiaries have given MCL, Burla an average mean score of 4.05 for its efforts as a responsible corporate citizen.

Sustainability

	Responses	Mean Score
Q27	The authority of Nadankanan Zoo has focused on periodic inspection, repair and maintenance of the Toy train facility at Nadankanan.	3.42
Q28	The competent authority also able to utilize the revenue generated through this intervention for smooth functioning of this measure and long-term functioning.	3.12

Table 75: Sustainability of the Intervention

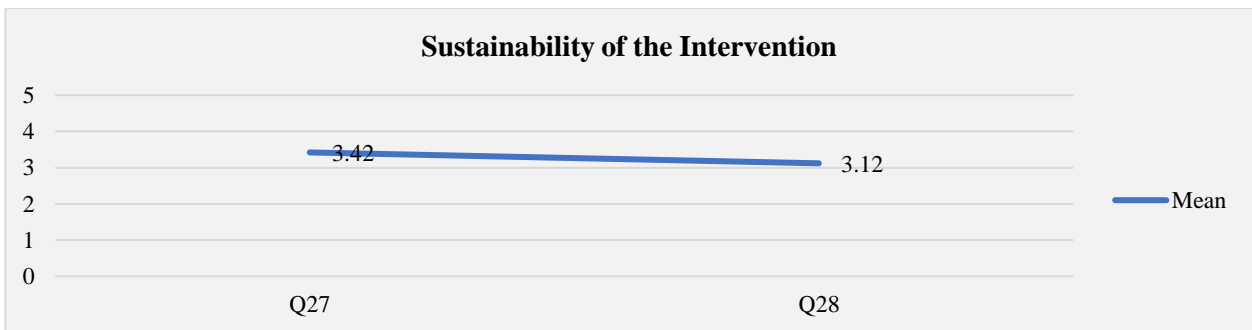


Figure 114: Sustainability of the Intervention

According to the respondents, it is imperative to conduct regular inspections, repairs, and maintenance on the toy train by concerned authority in order to guarantee uninterrupted and secure experiences for tourists who visit Nandankanan Zoo. This recommendation received an average mean score of 3.42. The findings indicate that the revenue generated by this intervention is getting utilized to sustain the facility in operational mode, as evidenced by an average mean score of 3.12.

9. Conclusion

The advancement of society is contingent upon the willingness of individuals to assume accountability for their immediate environment, recognizing the intricate web of interdependence that binds us all together. In today's ever-evolving society, it is imperative for businesses to place sustainable development and the welfare of the community at the forefront of their priorities. By doing so, they not only contribute to the overall well-being of society but also foster a sense of holistic growth.

The primary objective of this research is to thoroughly evaluate the profound effects of the diverse range of corporate social responsibility initiatives implemented by Mahanadi Coalfields Limited. These initiatives are aimed at fostering sustainable development within both the immediate vicinity of the company and the broader society. The CSR activities encompass a range of commendable initiatives, such as the construction and renovation of vital infrastructure like roads and drainage systems. Additionally, there is a focus on ensuring access to clean and potable water through the establishment of pipeline networks. The provision of well-equipped toilets and bathrooms, complete with piped water supply, is another noteworthy endeavor. Furthermore, efforts towards afforestation activities demonstrate a commitment to environmental sustainability. Lastly, the promotion of tourism is being pursued through the construction of innovative amenities like ropeways and toy trains. In this study, a comprehensive collection of responses has been obtained from over 1500 individuals, including ground level beneficiaries, sarpanches, ex-sarpanches, panchayat secretaries, SHGs, staffs of intervention, forest department officials.

In the realm of gathering responses for research purposes, a variety of qualitative and quantitative methods are employed and various tools such as observation, personal interviews scheduled questionnaire method has been employed, along with the utilization of focused group discussions, to gather responses. During the process of gathering responses, our team has diligently prioritized five crucial aspects. These include evaluating the previous condition, assessing the relevance, efficiency, effectiveness, and uniqueness of the intervention, as well as examining its impact and sustainability. Through a comprehensive exploration of these various facets, our team has diligently endeavored to unearth pragmatic resolutions that foster the advancement of sustainable development and enhance the collective welfare of the community.

Major Findings

Based on the responses of the respondents obtained from the field study, the study team has further categorized the responses based on mean scores into three degrees such as discontentment, appreciated, and highly appreciated. The interventions having mean value less than 2.5 were placed under first degree, which indicated that the sample population were discontented with these initiatives. In the second group, the interventions, which were having the mean values between 2.5 to 4, are placed under the degree of response as appreciated, and in the third group, highly appreciated initiatives having the mean score greater than 4 found place.

Table 6.1 clearly shows that responses of the beneficiaries about the CSR projects extended by MCL during FY 2013-14 to 2020-21. It has been observed that the implementation of these projects supported by MCL have also been highly appreciated by the respondents. The beneficiaries appreciated some of the measures, which may further be looked into. Overall, it was found that CSR measures taken by MCL have further sustainable development of society will improve quality of life of people of the targeted community.

Project: Repairing & strengthening of roads, drains R&R site Tikilipara.				
SL. No.	Dimensions	Degree of Response		
		Discontentment Mean Score Up to 2.5	Appreciated Mean Score (2.5-4)	Highly Appreciated Mean Score above 4
1	Status of Road and Drainage System before Extension of CSR Intervention		Q3, Q7	Q1, Q2, Q4, Q5, Q6
2	Relevance of the Intervention		Q12	Q8, Q9, Q10, Q11, Q13, Q14, Q15
3	Efficiency of the Intervention		Q18	Q16, Q17, Q19
4	Effectiveness and Uniqueness of the Intervention		Q20, Q21, Q22, Q23, Q25	Q24
5	Impact of the Intervention		Q30, Q31, Q32	Q26, Q27, Q28, Q29, Q33
6	Sustainability of the Intervention		Q34, Q36	Q35
Project: Strengthening of bituminous road including both sides cement concrete drain from Gurudwara to FCI gate as a CSR initiative of MCL under Jagannath Area.				
1	Status of Road and Drainage System before Extension of CSR Intervention			Q1, Q2, Q3, Q4, Q5, Q6, Q7
2	Relevance of the Intervention	Q12, Q13	Q9, Q14, Q15	Q8, Q10, Q11,
3	Efficiency of the Intervention	Q16	Q19	Q17, Q18
4	Effectiveness and Uniqueness of the Intervention	Q21, Q22	Q23	Q20, Q24, Q25
5	Impact of the Intervention	Q31	Q28, Q29, Q30	Q26, Q27, Q32, Q33
6	Sustainability of the Intervention	Q34, Q36	Q35	
Project: Construction of WBM with BM road from Kumunda village Panchayat office via Tentulisahi to Purunapanisahi of Kumunda village near Hingula OCP, HA.				
1	Status of Road before Extension of CSR Intervention		Q2	Q1, Q3, Q4
2	Relevance of the Intervention			Q5 to Q11
3	Efficiency of the Intervention		Q12	Q13 to Q15
4	Effectiveness and Uniqueness of the Intervention		Q20	Q6 to Q19
5	Impact of the Intervention		Q23 to Q26	Q21, Q22
6	Sustainability of the Intervention			Q27, Q28
Project: Village near Hingula OCP, HA Renovation of Bituminous Road from Dera to Kandhaberani.				
1	Status of Road before Extension of CSR Intervention			Q1 to Q4
2	Relevance of the Intervention		Q10, Q11	Q5 to Q9
3	Efficiency of the Intervention		Q12	Q13 to Q15
4	Effectiveness and Uniqueness of the Intervention		Q20	Q16 to Q19
5	Impact of the Intervention		Q23 to Q26	Q21, Q22
6	Sustainability of the Intervention		Q27, Q28	
Project: Construction of cement concrete road from Madan Mohan Chhak towards Gopinath village in Ward no.:3 and Ward no: 16 of Talcher Municipality under CSR of Talcher Area at Talcher, Angul.				
1	Status of Road before Extension of CSR Intervention			Q1 to Q4
2	Relevance of the Intervention		Q5, Q6	Q7 to Q11
3	Efficiency of the Intervention		Q12	Q13 to Q15
4	Effectiveness and Uniqueness of the Intervention		Q17	Q16, Q18, Q19, Q20
5	Impact of the Intervention		Q23	Q21, Q22, Q24, Q25, Q26
6	Sustainability of the Intervention			Q27, Q28
Project: Black topping of road from Radharamanpur village to JillindachhakArakhapal to Biraramchandrapur under CSR scheme of BBSR OCP, JA.				
1	Status of Road before Extension of CSR Intervention			Q1 to Q4
2	Relevance of the Intervention		Q10, Q11	Q5 to Q9

3	Efficiency of the Intervention		Q12	Q13 to Q15
4	Effectiveness and Uniqueness of the Intervention	Q20	Q16, Q17	Q18, Q19
5	Impact of the Intervention		Q23 to Q26	Q21, Q22
6	Sustainability of the Intervention	Q28	Q27	
Project: Construction of 7 nos. PWS Works at Talcher Block.				
1	Past Status of Water Supply System			Q1 to Q6
2	Relevance of the Intervention		Q11, Q12	Q7, Q8, Q9, Q10, Q13, Q14
3	Efficiency of the Intervention		Q15, Q17	Q16, Q18
4	Effectiveness and Uniqueness of the Intervention		Q19, Q20, Q21, Q24	Q22, Q23
5	Impact of the Intervention		Q26 to Q29	Q25, Q30
6	Sustainability of the Intervention		Q31, Q32, Q33	
Construction of Toilet & bathroom components along with connected administration & Management expense as part of ongoing project of sustainable development works in operational district by Gram Vikash.				
1	Status of Toilets, Bathrooms and Pipe Water Supply before Extension of CSR Intervention			Q1 to Q6
2	Relevance of the Intervention			Q7 to Q13
3	Efficiency of the Intervention			Q14 to Q17
4	Effectiveness and Uniqueness of the Intervention			Q18 to Q24
5	Impact of the Intervention			Q25 to Q32
6	Sustainability of the Intervention			Q33 to Q34
Project: Operation of toy train in Nandankanan				
1	Background of Toy Train Project			Q1 to Q4
2	Relevance of the Intervention		Q6, Q9	Q5, Q7, Q8, Q10, Q11
3	Efficiency of the Intervention		Q11, Q13	Q12, Q14, Q15
4	Effectiveness and Uniqueness of the Intervention		Q17	Q16, Q18, Q19, Q20
5	Impact of the Intervention		Q22	Q21, Q23, Q24, Q25, Q26
6	Sustainability of the Intervention		Q27, Q28	
Project: Ropeway project from Nehru Park to Gandhi Minar at Hirakud side Dam at Sambalpur under CSR of MCL.				
1	Background of Ropeway Project			Q1 to Q4
2	Relevance of the Intervention		Q9	Q5, Q6, Q7, Q8, Q10, Q11
3	Efficiency of the Intervention		Q12	Q13 to Q16
4	Effectiveness and Uniqueness of the Intervention			Q17 to Q20
5	Impact of the Intervention		Q22	Q21, Q23, Q24, Q25
6	Sustainability of the Intervention		Q26, Q27	
Project: Implementation of Afforestation activities under Corporate Sector during 2017-18 on deposition basis through Divisional Forest, Jharsuguda forest Division for 4 years.				
1	Background of Afforestation Activities			Q1 to Q4
2	Relevance of the Intervention		Q9	Q5, Q6, Q7, Q8, Q10, Q11
3	Efficiency of the Intervention		Q12, Q13, Q16	Q14, Q15
4	Effectiveness and Uniqueness of the Intervention			Q17 to Q23
5	Impact of the Intervention		Q28, Q29	Q24 to Q27
6	Sustainability of the Intervention		Q30, Q32	Q31
Project: Urban plantation under corporate sector for FY 2017-18 executed by DFO, Chandaka Division, Bhubaneswar Division, MCL CSR.				
1	Background of Afforestation Activities			Q1 to Q4
2	Relevance of the Intervention			Q5 to Q11

3	Efficiency of the Intervention		Q14, Q15, Q16	Q12, Q13
4	Effectiveness and Uniqueness of the Intervention		Q22, Q23	Q17 to Q21
5	Impact of the Intervention		Q24, Q28, Q29	Q25 to Q27
6	Sustainability of the Intervention			Q30 to Q32

Table 76: Deliverables of CSR Interventions

Overall Assessment of CSR Projects

CSR Projects	Assessment Criteria				
	Relevance	Efficiency	Effectiveness and Uniqueness	Impact	Sustainability
Repairing & strengthening of roads, drains R&R site Tikilipara	<ul style="list-style-type: none"> Proper Identification of Intervention Site Strengthening of Public Transportation System Proper Coordination with local government 	<ul style="list-style-type: none"> Rural Development Complied Under close monitoring. Satisfactory quality of construction work 	<ul style="list-style-type: none"> Smooth flow of Traffic Proper coordination with implementing agency Quality of work is Appreciable 	<ul style="list-style-type: none"> Better Connectivity Safe Mode of Transport Increase in Trade and Commerce Reducing household losses 	<ul style="list-style-type: none"> Timely repair and Maintenance required from government or local administration. Awareness needs to be created among the beneficiaries.
Strengthening of bituminous road including both sides cement concrete drain from Gurudwara to FCI gate as a CSR initiative of MCL	<ul style="list-style-type: none"> Focus on fulfilling Basic Needs Strengthening of Public Transportation System Eradicating infectious diseases 	<ul style="list-style-type: none"> Completed in due course of time. Rural Development Complied Under close monitoring. Proper Coordination with local government 	<ul style="list-style-type: none"> Smooth flow of Traffic Creation of Awareness about intervention Quality of work is Appreciable. Quite helpful in emergency condition 	<ul style="list-style-type: none"> Better Connectivity Increase in Trade and Commerce Reducing household losses Reducing Flooding Condition in Rainy Season 	<ul style="list-style-type: none"> Timely Repair and Maintenance required from government or local administration. Awareness must be created among the beneficiaries regarding intervention by local authority.
Construction of WBM with BM road from Kumunda village Panchayat office via Tentulisahi to Purunapanisahi of Kumunda village	<ul style="list-style-type: none"> Realization of Basic Needs Horrible Condition past transportation system 	<ul style="list-style-type: none"> Completed in due course of time. Rural Development Complied Under close monitoring. 	<ul style="list-style-type: none"> Smooth flow of Traffic Creation of Awareness about intervention Satisfactory quality of construction work 	<ul style="list-style-type: none"> Better Connectivity Safe Mode of Transport Increase in Trade and Commerce 	<ul style="list-style-type: none"> Timely repair and maintenance work done by local administrative authority.
Village near Hingula OCP, HA Renovation of Bituminous Road from Dera to Kandhaberani	<ul style="list-style-type: none"> Understanding the needs of the peoples Strengthening of Public Transportation System 	<ul style="list-style-type: none"> Completed in due course of time. Rural Development Complied Under close monitoring 	<ul style="list-style-type: none"> Proper coordination with implementing agency Creation of Awareness about intervention 	<ul style="list-style-type: none"> Safe Mode of Transport Increase in Trade and Commerce Satisfactory quality of construction work 	<ul style="list-style-type: none"> Need for repair and maintenance of the intervention by local administrative authority.
Const. of cement concrete road from Madan Mohan Chhak towards Gopinath village in Ward no.:3 and Ward no:16 of Talcher Municipality	<ul style="list-style-type: none"> Proper Identification of Intervention Site Strengthening of Public Transportation System Realizing the need for rural development 	<ul style="list-style-type: none"> Completed in due course of time. Rural Development Complied Under close monitoring 	<ul style="list-style-type: none"> Smooth flow of Traffic Proper coordination with implementing agency Creation of Awareness about intervention Cooperation among Local people and Organization. 	<ul style="list-style-type: none"> Better Connectivity Safe Mode of Transport Increase in Trade and Commerce Satisfactory quality of construction work 	<ul style="list-style-type: none"> Awareness about the project is created Timely repair and maintenance work done by local administrative authority.
Black topping of road from Radharamanpur	<ul style="list-style-type: none"> Proper Identification of Intervention Site MCL understands 	<ul style="list-style-type: none"> Completed in due course of time. Under close 	<ul style="list-style-type: none"> Smooth flow of Traffic Proper coordination 	<ul style="list-style-type: none"> Better Connectivity Safe Mode of Transport 	<ul style="list-style-type: none"> Timely Repair and Maintenance required from

village to JilindachhakArakh apal to Biraramchanderpur under CSR scheme of BBSR OCP, JA	<ul style="list-style-type: none"> the basic need of people. Strengthening of Public Transportation System 	<ul style="list-style-type: none"> monitoring of MCL personnel Value for Money 	<ul style="list-style-type: none"> with implementing agency Creation of Awareness about intervention 	<ul style="list-style-type: none"> Increase in Trade and Commerce Focusing on Rural Development 	<ul style="list-style-type: none"> government or local administration. Awareness about the project needs to be created among the beneficiaries by local authority.
Construction of 7 nos. PWS Works at Talcher Block.	<ul style="list-style-type: none"> Fulfillment of Basic Need Clean Drinkable Water 	<ul style="list-style-type: none"> Completed in due course of time. Complied Under close monitoring. 	<ul style="list-style-type: none"> Systems are Working Efficiently Display Boards are Placed in Appropriate Place 	<ul style="list-style-type: none"> Providing Clean Water Eradicating Water Borne Diseases Approach of the Partnering Organization 	<ul style="list-style-type: none"> Requirements for prompt maintenance and repair from the local authorities. Local authorities must spread knowledge of the project among the recipients.
Ropeway Project from Nehru Park to Gandhi Minar at Hirakud side of Dam at Sambalpur.	<ul style="list-style-type: none"> Tourist Attraction Utilizing Potential Revenue Generation Socio economic Development of locals 	<ul style="list-style-type: none"> Completed in due course of time. Completed under close monitoring. Value for Money 	<ul style="list-style-type: none"> Comfort and Attractiveness Ecofriendly tourism Creation of Awareness 	<ul style="list-style-type: none"> Providing Comfort and Attractiveness Creating Direct and Indirect Employment Better Understanding of Biodiversity 	<ul style="list-style-type: none"> The administrative authority should concentrate on increasing brand awareness of the sponsoring entity by including at various places logo.
Operation of toy train in Nandankanan	<ul style="list-style-type: none"> Tourist Attraction Revenue Generation Socio economic Development of locals Ecofriendly tourism 	<ul style="list-style-type: none"> Completed in due course of time. Completed under close monitoring. Value for Money 	<ul style="list-style-type: none"> Providing Comfort and Attractiveness Approach of partnering organization Creation of Awareness 	<ul style="list-style-type: none"> Providing Comfort and Attractiveness Creating Direct and Indirect Employment Better Understanding of Biodiversity 	<ul style="list-style-type: none"> Both implementing agency and administrator must give priority on branding by placing the logo of MCL inside and outside of each coach. Timely maintenance by the Nandankanan authority.
Construction of Toilet & bathroom components along with connected administration & Management expense in operational district by Gram Vikash	<ul style="list-style-type: none"> Fulfillment of Basic Need Maintain Personal Hygiene Free from Open Defecation 	<ul style="list-style-type: none"> Satisfaction with quality of Construction Completed in due course of Time. Completed with close monitoring 	<ul style="list-style-type: none"> Improving Women Dignity Reduce Daily Drudgery of fetching and carrying water. Approach from implementing agency. 	<ul style="list-style-type: none"> Reduce Transmission of Infectious Disease MCL a Responsible Corporate Citizen Coordination with local people 	<ul style="list-style-type: none"> Proper repair and maintenance work taken care by the individual beneficiaries.
Implementation of Afforestation activities under Corporate Sector through Divisional Forest, Jharsuguda	<ul style="list-style-type: none"> Promoting Environmental Sustainability Generate Employment 	<ul style="list-style-type: none"> Completed under close monitoring. Real Value for ecological restoration 	<ul style="list-style-type: none"> Survival Rate of Sapling Protection of Flora and Fauna and animal 	<ul style="list-style-type: none"> Restoring Ecological Balance Creating positive impact on the Environment 	<ul style="list-style-type: none"> Forest department should focus on tackling of forest fire and watering during summer season. Forest department has focused on creating awareness among the local community.

Urban plantation under corporate sector executed by DFO, Chandaka Division, Bhubaneswar	<ul style="list-style-type: none"> Understanding the need for ecological restoration Promoting Environmental Sustainability 	<ul style="list-style-type: none"> Completed in due course of time. Completed under close monitoring. Real Value for ecological restoration 	<ul style="list-style-type: none"> Survival Rate of Sapling Protection of Flora and Fauna and animal Welfare Recharging Ground Water Level 	<ul style="list-style-type: none"> Reducing Air Pollution Restoring Ecological Balance Creating positive impact on the Environment 	<ul style="list-style-type: none"> Forest department should focus on tackling of forest fire and watering during summer season. Forest department has focused on creating awareness among the local community.
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Table 77: Overall Assessment of CSR Projects of MCL

Recommendations

Table 92 clearly shows that beneficiaries have appreciated the CSR projects extended by Mahanadi Coalfields Limited (MCL) towards the sustainable development of society through various CSR activities. It has been observed that the measures taken by MCL have also been highly appreciated by the respondents. The beneficiaries appreciated some of the measures which may further be looked into. It can be stated as the CSR policy of MCL has a significant impact on the beneficiaries through implementation of customized CSR projects for rural development. After analysis of data collected during field survey, it was observed that some of the measures taken by MCL with respect to the assigned CSR projects need more attention and a strategic plan for successful implementation towards sustainability.

Interventions	Recommendations for Improvement
Construction and Repair of Road and Drainage System	<ul style="list-style-type: none"> Awareness to be created among the beneficiaries about the sponsor of the project by the local caretaking authority of the intervention for better visibility and branding. Government or local administration should focus continuously on repair and maintenance of intervention for safe communication of the local community. Awareness should be created about the long-term benefit of the intervention among the beneficiaries for sustainability of the intervention.
Pipe Water Supply	<ul style="list-style-type: none"> Government or local caretaker of the project should involve the community such as SHGs, youth clubs, sports clubs, etc. in restoration and maintenance of extended intervention to ensure its efficacy through customized training measures. Focus should be given by local authority to create long-term benefit of the intervention by providing support for timely repair and maintenance. Many water supply systems are not in proper condition to fulfill the need of the society; those are to be made functional by the implementing agency.
Sanitation Facility	<ul style="list-style-type: none"> Periodic maintenance of the pumps, pipes and water tanks by involving the local community (SHGs, Youth Clubs, and Cultural societies) with the active support of respective village Panchayats.
Afforestation Activities	<ul style="list-style-type: none"> Forest department should counsel surrounding villagers regarding the enduring advantages associated with the intervention. Forest department should regularly monitor the condition of sapling planted for better survival rate. Forest fire is the major problem affecting the afforestation activities which should be addressed by the concerned authority. In the afforestation activities local people must be involved in ‘Bana Surakshya Simiti’ for restoration and conservation of the forest.
Toy Train	<ul style="list-style-type: none"> In each coach of the toy train logo of MCL should be placed for creating more awareness about sponsoring organization. The current condition of the toy train is so bad that needs immediate repair and maintenance for better performance by the authority of Nandankanan.

	<ul style="list-style-type: none"> • Though Toy train is fulfilling the objective of eco-friendly tourism, it is not sufficient to accommodate more no. of tourists.
Ropeway	<ul style="list-style-type: none"> • The local authority must take appropriate measure for putting of the Logo of MCL in the cabin of Ropeway which enhances better visibility of the sponsoring organization. • Regularly repair and maintenance of the ropeway intervention should be taken care by local administrative authority of Ropeway, which is crucial for its smooth functioning. • The current condition of ropeway cabins is not good; they need repair and maintenance.

Table 80: Recommendations for Improvement

In general the study team has realized that for the very success and sustainability of the assessed twelve CSR interventions/measures was highly dependent on the following proactive roles played by the different stakeholders.

- Identification of appropriate and need based CSR intervention by the sponsoring organization through baseline study / need assessment study.
- Involvement of local community / local administration for extension of CSR measures on priority basis.
- Timely completion of the CSR projects by the implementing agencies as per the agreement with the sponsoring organization.
- The sponsoring organization must focus on the quality and durability aspect of extended CSR measures.
- Accountability must be fixed for periodic repair and maintenance of extended CSR measures with the support of local government or implementing agencies.
- The local administration must involve local youth clubs, SHG groups, village committee by extending customized training to the members for acquiring of skills and proper maintenance of the CSR measures provided for the benefit of the village people.
- Every implementing agency must adopt proper branding strategy such as community involvement and awareness, placing of logo of MCL at appropriate place for better visibility and placing of permanent hoardings at every CSR intervention sites.

Organizations that have established a track record of investing in and fostering community development enjoy a distinct competitive advantage. This advantage enables them to expedite capacity additions and expansions more efficiently. Hence, it is imperative to effectively communicate corporate social responsibility (CSR) initiatives, encompassing both the scope of their coverage and the magnitude of their influence. Under the CSR Policy of 2010, Mahanadi Coalfields Limited (MCL) actively pursued various common goals, including infrastructure development, improvement of healthcare facilities, establishment of educational infrastructure, provision of safe drinking water, promotion of sports and cultural events, and capacity building. These efforts have fostered a remarkable partnership and goodwill between the company and the beneficiaries. Developing a comprehensive strategy for implementing need-based initiatives within the framework of CSR can yield significant benefits for both the beneficiaries and the reputation of MCL. This approach has the potential to foster a harmonious environment while also enhancing the brand perception of MCL among stakeholders, shareholders, government institutions, other organizations, and the local community.

The study team would like to express their appreciation for the efforts made thus far regarding the sustainable development of society. It has been noted that MCL has consistently expanded the range of its CSR initiatives and established itself as a paragon of corporate citizenship within the country, serving as a model for other corporations to emulate. The communities have observed an expansion in the range of

activities being carried out because of the implementation of MCL's corporate social responsibility policy. They have also recognized the overall enhancements in their quality of life and the general facilities available to them. The fundamental principle guiding MCL's CSR initiatives is a persistent commitment for engaging and empowering the community, resulting in mutually beneficial outcomes for both the company and the community.

10. Case Studies

	<p>Mr. Ramesh Kumar Das is from Gurudwara Sahi, located in the Talcher Block of Angul. The individual in question has been granted access to road and drainage infrastructure extending from Gurudwara Sahi to the FCI gate. He has expressed their apprehension regarding the present state of the drainage facility, which overflows during the rainy season. However, he expresses contentment with the current state of transportation, which has significantly improved following the construction of the road.</p>
	<p>Mr. Srikant Roul hails from Santhapada, a village in the Talcher Block of Angul district. The individual is a pump operator at the pipe water supply facility operated by MCL in Santhapada. The individual, who is a recipient of the local pipe water supply, expresses high satisfaction with the service. He has a desire for a slight extension in the duration of the water supply. Additionally, he works as a pump operator and rely on this water supply intervention to support his family financially.</p>
	<p>Mr. Bidyadhara Bhuiyan originates from Dera, situated within the Talcher Block of Angul district, as the beneficiary of the Dera to Kandhabhereni road project. The individual expresses a high level of contentment regarding the caliber of the road that has been constructed. However, he has expressed his apprehension regarding the prompt repair and maintenance of roads to ensure efficient transportation.</p>
	<p>Mr. Umasankar Mohapatra comes from Sukulipali village in the Lakhanpur Block of Jharsuguda district. He has the recipient of sanitation facilities provided by MCL in collaboration with the implementing organization Gram Vikas. He has been provided with a toilet, a bathroom, and a connected water supply via pipes as part of the intervention. He has expressed a high level of contentment with the services provided by MCL through the rural development initiative.</p>



Mr. Bikas Kumar Nayak hails from the village of Bisipali in the Jharsuguda district. He is employed as a Watcher within the district forest department of Jharsuguda. The individual expresses a high level of satisfaction with the afforestation initiatives implemented in the Bisipali VF. The implementation of afforestation activities has resulted in the restoration of ecological balance.



Mr. Bikram Kesari Ojha, hailing from Baranga in the Cuttack district, is employed as an operator on the Toy Train service facilitated by MCL. The individuals express their apprehension regarding the routine upkeep of the Toy Train facility to ensure its optimal operation. The individual represents a high level of contentment with the amenities offered by MCL, which effectively captivates the interest of tourists visiting the Nandankan Zoo, locally and from other regions.



Mrs. Swarna Lata Sahoo, hailing from Sambalpur, visited Nehru Park in Sambalpur for recreational purposes. During her visit, she had the opportunity to partake in the enjoyable experience of riding the Ropeway, which spans from Gandhi Minar to Nehru Minar. She has conveyed their contentment with the Ropeway Journey and expressed gratitude for the endeavors made by MCL. This journey helps her in exploring ecological diversity.