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NUMALIGARH
REFINERY
LIMITED

A GOVERNMENT OF INDIA ENTERPRISE



SOCIAL IMPACT ASSESSMENT OF CSR PROJECTS OF NUMALIGARH REFINERY LTD. FOR 2020-21 and 2021-22



Disclaimer

This report is based on the Social Impact Evaluation Study conducted for Numaligarh Refinery Limited. The information contained in the report is of general nature and will not be intended to address the circumstances of any particular individual or entity. Recommendations and Comments in our Report are not intended, nor should they be interpreted to be a binding opinion. IICA does not undertake any responsibility arising in any way whatsoever, to any person other than NRL in respect of the matters dealt with in this report, including any errors or omissions therein, arising through negligence or otherwise, howsoever caused.

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Acknowledgement

Development, whether social, economic, or political, is a collaborative effort that thrives on the convergence of various initiatives. Real progress occurs when everyone works together to achieve measurable social impact. The CSR mission of NRL entails the identification and implementation of welfare schemes, guided by baseline surveys and in-house assessments. This inclusive process involves consultations with village development committees, district authorities, and stakeholders and the ongoing effectiveness of these implemented schemes is systematically evaluated through periodic assessments.

The Social Impact Evaluation of NRL aims to gauge the social, economic, and cultural impacts of its CSR initiatives, primarily focused on major projects in district Golaghat and some projects in the aspirational district Darrang of Assam. This report is the culmination of the Social Impact Evaluation Study conducted by the Centre for Excellence in CSR & Corporate Citizenship at the Indian Institute of Corporate Affairs (IICA), in collaboration with the cooperation and support of Numaligarh Refinery Limited.

We express our sincere gratitude to NRL and its officials for their invaluable cooperation throughout the study. This endeavor would not have been possible without their consistent support and coordination. Special thanks are extended to the field coordinators and data enumerators for their unwavering dedication during the field study. Additionally, we appreciate the respondents, including NRL officials, supporting staff, principals of the covered colleges and schools, students, teachers, administrative and managerial staff, and all individuals associated with NRL's CSR initiative in Assam.

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EXECUTIVE SUMMARY

Since its establishment in 1993 following the Assam Accord of 1985, Numaligarh Refinery Limited (NRL) has played a pivotal role in socio-economic development, especially in Assam and the North East. Officially inaugurated in 1999 by former Prime Minister Shri Atal Bihari Vajpayee, NRL has consistently committed to sustainable practices and corporate social responsibility (CSR). NRL is dedicated to achieving net-zero emissions by 2040, in alignment with India's National Sustainability Goals. A cornerstone of NRL's commitment is its comprehensive CSR and Sustainability Policy, which allocates 2% of the company's average profit-before-tax to a wide range of community development projects. These projects are strategically categorized into 12 thematic areas, ensuring a holistic approach to community welfare.

To assess the effectiveness, impact and sustainability of its initiatives, the Indian Institute of Corporate Affairs (IICA) has conducted a thorough Social Impact Evaluation. This extensive assessment covered 51 projects across the 12 thematic areas, utilizing diverse methodologies to provide a detailed understanding of the societal benefits and outcomes of NRL's efforts.

The Social Impact Evaluation of Numaligarh Refinery Limited's (NRL) projects employed a robust and multi-faceted methodology to ensure a comprehensive assessment of the initiatives' effectiveness and societal impact. This detailed approach integrated various established frameworks and processes, providing a thorough understanding of the outcomes and guiding future interventions. Key methodologies and steps involved in the evaluation process include:

Logical Framework Analysis (LFA)

Purpose: LFA offers a structured approach to project planning, implementation, and evaluation.

Objectives: Clearly defined project goals and objectives.

Outputs: Specific deliverables or products resulting from the project activities.

Outcomes: The broader changes or benefits resulting from achieving the outputs.

Assumptions and Risks: Identification of underlying assumptions and potential risks that could affect project success.

Utility: LFA helps in systematically organizing project elements and ensuring alignment between activities and intended outcomes.

Result Framework Document (RFD)

Purpose: The RFD methodology provides a framework for monitoring and evaluating project performance against predefined targets and indicators.

Targets: Specific, measurable goals set for the project.

Indicators: Quantitative or qualitative metrics used to track progress.

Utility: This methodology facilitates tracking progress, identifying gaps, and making necessary adjustments to enhance project effectiveness.

Sustainable Development Goals (SDGs) Framework

Purpose: Evaluating the alignment of NRL's projects with global sustainability targets.

Components: The SDGs framework encompasses a wide range of social, economic, and environmental challenges.

Utility: Ensures a holistic approach to sustainable development by aligning projects with internationally recognized goals.

Impact Assessment Process

The assessment process involved a meticulous six-step approach:

1. Literature Review: Conducted an extensive review of existing literature related to the projects and thematic areas, providing a foundational understanding and context.

2. Preparation, Pre-testing, and Finalization of Research Tools: Developed research tools for data collection, which were pre-tested and refined to ensure their effectiveness and reliability.

3. Training of Survey Team: A dedicated survey team was trained to conduct effective fieldwork, ensuring consistency and accuracy in data collection.

4. Fieldwork and Data Collection

Primary Data Collection: Conducted through various methods:

In-depth Interviews: Detailed interviews with project beneficiaries and stakeholders.

Focus Group Discussions (FGD): Group discussions to gather diverse perspectives and insights.

Key Informant Interviews (KII): Interviews with individuals having extensive knowledge and involvement in the projects.

5. Data Analysis and Interpretation

Collected data underwent meticulous analysis and interpretation, leading to the synthesis of findings into a comprehensive report. This phase involved:

Quantitative Analysis: Statistical analysis of numerical data.

Qualitative Analysis: Thematic analysis of qualitative data

6. Report Synthesis and Recommendations

Findings were compiled into a detailed report, including actionable recommendations for future interventions. This report aimed to provide practical insights for enhancing the effectiveness and impact of NRL's initiatives.

Monitoring and Verification Mechanisms

To ensure data accuracy and consistency, robust monitoring and verification mechanisms were implemented, including:

Geo-tagging: Using geographic tags to verify the locations of data collection points.

Real-time Data Uploads: Immediate uploading of data to a central database for ongoing monitoring.

Daily Backups: Regular backups of collected data to prevent loss.

Phone Verification: Randomly selected samples were verified through follow-up phone calls to confirm the authenticity of the data.

This comprehensive methodology ensured a thorough and reliable assessment of NRL's projects, providing valuable insights into their societal impact and guiding future CSR efforts.

The Social Impact Evaluation by the Indian Institute of Corporate Affairs (IICA) on Numaligarh Refinery Limited's (NRL) CSR initiatives highlights significant advancements in Assam's livelihood enhancement, environmental sustainability, and community empowerment. The rubber plantation project has generated immediate employment and is set to provide

economic benefits with latex harvesting starting in January 2024, while also aiding soil conservation and biodiversity.

Custom Hiring Centers (CHCs) have doubled crop production, reduced labor costs, and improved agricultural productivity, promoting sustainable farming aligned with several UN Sustainable Development Goals (SDGs). The distribution of fruit-bearing saplings has positively impacted 68.75% of beneficiaries, enhancing nutrition and dietary diversity despite soil quality challenges. NRL's initiatives showcase strategic investments in long-term economic empowerment, environmental health, and sustainable community development.

Findings in the thematic area of Education reveal substantial enhancements in infrastructure and student engagement. Classroom construction and renovation improved the learning environment, with 75% of respondents reporting increased attendance. Additionally, 99.2% noted better comfort and study efficiency due to new desk benches. The scholarship program alleviated financial burdens, enabling students to pursue higher education and boosting their academic and career aspirations. These initiatives align with SDGs, promoting quality education (SDG 4), reducing poverty (SDG 1), and fostering sustainable communities (SDG 11), ultimately empowering students and contributing to long-term socio-economic development.

NRL's healthcare CSR initiatives have significantly improved healthcare access and outcomes in underserved areas. The Mobile Medical Units achieved a 98.13% consultation rate, with 89.32% of beneficiaries finding medical care highly accessible. Nearly half of the beneficiaries (46.26%) reported monthly consultations. The VKNRL School of Nursing has successfully placed around 90 students in healthcare careers, highlighting its impact on addressing the human resource crisis in healthcare. The Anganwadi program has enhanced access to healthcare and nutrition for children, contributing to improved health and early disease detection. These initiatives align with SDGs, promoting good health (SDG 3), quality education (SDG 4), and sustainable communities (SDG 11), effectively addressing key healthcare challenges and advancing public health in India.

The NRL Football Academy is a pivotal initiative fostering socio-economic development and athletic excellence in a geographically deprived region, with 98% positive feedback from 26 players regarding cleanliness and coaching quality. The academy's inclusive approach, drawing talent through familial connections, peer influence, and direct outreach, democratizes access to quality sports education. It provides free coaching, three jerseys per year, and holistic support including scholarships and meals. Despite geographical isolation limiting competitive exposure, the academy's 3-star AIFF accreditation, professional oversight by Bhaichung Bhutia Football Schools, and robust monitoring mechanisms ensure high standards. Particularly for female players, who expressed overall

satisfaction and diverse career aspirations, the academy promotes gender equality and aligns with SDGs. Addressing resource and exposure challenges will enhance its impact, making it a model for leveraging sports for broader social objectives.

The Social Impact Evaluation study by the Indian Institute of Corporate Affairs (IICA) reveals that the Swanirbha project has significantly improved the lives of beneficiaries, providing a beacon of hope and empowerment for unemployed youth and enhancing livelihoods in their community. Through diverse employment opportunities, such as transitioning from tea cultivation to more profitable ventures like pig farming and broiler farming, beneficiaries have experienced tangible economic growth. Collaborative efforts in broiler farming and catering units have bolstered economic stability, fostering a sense of community and shared success. Despite challenges in ventures like battery rickshaw and goat rearing, the project has steadfastly driven economic empowerment. Testimonials highlight gratitude for NRL's support, enabling financial self-reliance and business expansion. Amidst India's persistent multidimensional poverty, exacerbated by the COVID-19 pandemic, the Swanirbha project stands out as a transformative initiative, significantly improving the financial situations of its beneficiaries and fostering sustainable livelihoods.

The impact evaluation study conducted by IICA has revealed significant challenges in the field of skill development at Golaghat ITI College. The study identified critical infrastructure deficiencies, including the absence of a hostel, playground, and bike/cycle stand, impacting students' convenience, safety, and well-being. Moreover, the lack of direct placement opportunities poses hurdles to students' career prospects post-graduation, emphasizing the need for a structured placement and career guidance system. Anticipated growth necessitates additional staff to maintain educational standards and student satisfaction. Addressing these

challenges is crucial for enhancing the institution's functionality and ensuring the holistic growth of its students.

NRL's establishment of Anganwadi Centers has significantly improved the nutritional status and health of children in served communities, enhancing access to healthcare and facilitating early disease detection. The centers not only provide healthcare but also offer education, sports, and nutrition facilities, contributing to overall community well-being. NRL's broader initiatives, including mobile medical camps, Niramoy, VK NRL School of Nursing, and Anganwadi renovation programs, align closely with Sustainable Development Goals (SDGs) related to healthcare and sustainable development. Mobile medical camps and Niramoy support SDG 3 by providing essential healthcare services and improving emergency medical care. The VK NRL School of Nursing addresses SDG 4 by training healthcare professionals, while the Anganwadi renovation program supports SDGs 2 and 3 by enhancing access to nutrition and healthcare services for women and children. These initiatives play a pivotal role in advancing global health and well-being agendas.

The findings reveal significant infrastructure improvements in the aspirational district Darrang, supported by NRL's funding of 7 crore rupees between 2019 and 2021. Enhancements include improved healthcare facilities, school infrastructure development, and progress in toilet construction initiatives. Challenges remain, such as incomplete electrification and delayed Anganwadi centre construction due to funding constraints. However, these efforts align with multiple Sustainable Development Goals, indicating progress towards holistic community development in the region.

INTRODUCTION

About Numaligarh Refinery Limited

Established on April 22, 1993, in accordance with the Assam Accord of 1985, Numaligarh Refinery Limited (NRL) stands as a Category-I Miniratna Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum and Natural Gas, Government of India. Significantly, NRL's status was elevated from Schedule B to Schedule A CPSE on July 4, 2023. Dedicated to the nation by former Prime Minister Shri Atal Bihari Vajpayee on July 9, 1999, NRL's 3 Million Metric Tonnes Per Annum (MMTPA) Refinery has showcased commendable performance since commencing commercial production in October 2000. Not only has NRL played a crucial role in the socio-economic development of Assam and North East India, but its impact is also felt globally through the export of products, notably Paraffin Wax.

In alignment with the Government of India's target of achieving net-zero emissions by 2070, NRL has set an ambitious roadmap to reach its net-zero goals by 2040. As part of this commitment and in line with the National Green Hydrogen Mission, NRL has initiated the establishment of a Green Hydrogen plant with a capacity of 300 kg/hr (18 MW) within the Refinery premises.¹

NRL has outlined its 'CSR and Sustainability Policy,' emphasizing a vision to pursue activities that contribute to inclusive community development. The mission involves identifying and implementing welfare schemes based on genuine needs through comprehensive assessments and collaboration with local stakeholders. The policy adheres to statutory requirements, aligning with Section 135 of the Companies Act 2013 and relevant CSR guidelines.

NRL categorizes its CSR activities under 12 broad heads and they are as follows:

1. Livelihood Generation
2. Education
3. Skill Development
4. Sanitation
5. Health Care
6. Arts

¹ <https://www.nrl.co.in/Profile>

7. Sports
8. Literature
9. Culture
10. Environment Sustainability
11. Women Empowerment
12. Rehabilitation of PWDs

The execution of major projects follows a transparent, project-based approach, and the annual budget is allocated based on 2% of the average profit-before-tax of the preceding three years. CSR initiatives are structured through a two-tier organizational framework, ensuring effective communication, monitoring, and periodic evaluation. The policy highlights a local focus within a 10 km radius of NRL's operations, limiting administrative overheads to 5% of the annual CSR budget. ²

About the projects under Evaluation

In the extensive Social Impact Evaluation conducted by IICA for NRL, the assessment covers 12 overarching themes, comprising a total of 51 individual projects. This thorough examination explores the diverse dimensions of NRL's initiatives, providing a detailed and insightful analysis of their societal implications. The evaluation employs methodologies such as Logical Framework Analysis³, Result Framework Document⁴, and SDG Framework to ensure a comprehensive understanding of the impact of NRL's interventions.

IICA employs the SDG framework to gauge the congruence of Social Impact Evaluation findings with the Sustainable Development Goals (SDGs). In September 2015, the United Nations called upon global businesses, non-profits, individuals, and government agencies to collaborate on addressing society's major challenges by 2030. The 2030 agenda for sustainable development encompasses 17 SDGs, each with 169 ambitious targets. The SDGs framework serves to assess whether an organization's programs, projects, or activities align with and contribute to the achievement of these SDGs. It evaluates if the social impact generated by the organization's CSR activities contributes toward the realization of these 17 SDGs. This alignment in Social Impact Evaluation study enables companies to demonstrate their significant

² <https://www.nrl.co.in/1Csr-policy1>

³ <https://www.gdrc.org/ngo/logical-fa.pdf>

⁴ https://info.undp.org/docs/pdc/Documents/ALB/UNDP_Principles%20of%20Results%20Framework_PwC.pdf

contributions to the realization of Sustainable Development Goals, showcasing their commitment to global sustainability.⁵

The **Logical Framework Analysis (LFA)**, also known as a Project Framework, serves as a structured planning and management tool for development projects. This model, originating in the United States and later embraced by various donors, including the Department for International Development (DFID), is presented in a tabular format to provide a clear, concise, and systematic overview of key project components. The log frame succinctly outlines the project's intended achievements, details the activities to reach its outputs and purpose, identifies necessary resources, anticipates potential challenges, and articulates the criteria for measuring and verifying progress and overall success. In essence, the LFA acts as a comprehensive guide for project planning and evaluation, fostering a logical and organized approach to development initiatives.

Government institutions play a crucial role in delivering essential services vital for national well-being and development. To optimize the efficiency and economy of public service delivery, these institutions are mandated to formulate strategic plans, allocate resources accordingly, and diligently monitor and report results. The success of various government projects, programs, and initiatives hinges on clear articulation of expected results, ensuring measurable objectives, progress monitoring, and facilitating adjustments for effective implementation. A **results framework (RF)** serves as a pivotal tool in aligning government efforts with strategic development objectives, linking interventions to intermediate outcomes and measurable results within defined time frames, typically a financial year. The RF not only shifts the government's focus from process to results but also provides an objective basis for fair program performance evaluations at the end of the stipulated period. Implementing an RF system demands both organizational and cultural changes within government entities, recognizing varying levels of readiness, maturity, and capacity across different departments. For optimal effectiveness, the RF should transcend being merely a technical instrument, incorporating well-designed elements, standardizing mandates, integrating good governance principles, and addressing institutional capacity while responding to the demand for evaluation.

Table 1: Details of the projects

THEMES	PROJECTS
	1. Drishti: Assistance for conduct Eye Screening cum Cataract detection & operation camp, Health camp

⁵ <https://sdgs.un.org/goals>

Healthcare	2. Construction of charitable dispensary 3. Contribution towards physical and mental health 4. Renovation of Anganwadi Kendra 5. Expenditure on various activities related to COVID-19 6. Infrastructure development of public health centres 7. Niramoy: routine free mobile medical camps 8. Offering pediatric therapy for children with delayed development 9. Providing Ambulance, Mobile blood collection vehicle, Harse vehicle 10. Providing assistance to the patients for treatment of critical health and life threatening ailments
Drinking Water	1. Jeevandhara_Installation of Drinking water plants to provide clean and safe drinking water in rural areas, educational institutes, Public places
Sanitation	1. Swacchh Vidyalaya Abhiyan 2. Project Paricchannata_ A scheme to provide Low Cost Sanitary toilet to BPL household to ensure better health and Hygiene including elimination of open defecation. 3. Construction and renovation of Toilets facility in public places for maintaining clean and hygienic environment
Skill Development	1. Skill development initiative – Skill development training in hospitality, tourism & construction sector
Education	1. Construction and renovation of School Building, Class Room, Laboratory, boundary wall, auditorium, playground, etc. and providing various amenities 2. Conducting Remedial & Mentoring coaching program 3. Career Development Programme in School & Colleges 4. Financial Assistance to Vivekananda Kendra Rock Memorial 5. Financial Assistance to Kanyakumari for setting up of new school, hostel facility, Library, Staff room etc 6. Operation & Maintenance of VK NRL School of Nursing at Numaligarh

	7. Providing Scholarship under various schemes to meritorious students to pursue higher education in various institute 8. Provided Digital Classroom equipment to Educational institution 9. Providing Desk Benches to Educational institute
Livelihood Enhancement	1. SwaNirbha_Promoting local entrepreneur 2. SHG & JLG for setting up various livelihood projects 3. Providing Farm Machineries 4. Development of Custom Hiring Centres to promote farm mechanization 5. Installations of Solar Cold Storage 6. Plantation of Fruit bearing tree sapling 7. Rubber Plantation
Women Empowerment	1. Providing assistance to various Women entrepreneur, SHG, weaving units towards empowerment of women
Environmental Sustainability	1. Nirmal Chahar - A project to provide waste handling equipments to various Municipalities/ Town Committees/Market committees; Development of waste treatment plant / dumping yard to promote Swacch Bharat Mission.
Forest & Animal Welfare	1. Providing supports for mitigating man-elephant conflict 2. Tree plantation 3. Rescue and rehabilitate sick and needy animals, veterinary healthcare etc. 4. Construction of Tongi Ghar 5. Distribution of search light for protection of crops from wild elephant 6. Construction of Watch Tower for mitigating Men-Elephant Conflict 7. Mitigating man-elephant conflict by plantation of rice 8. Group Personal Accident Insurance Policy for Security staff of Kaziranga National Park
Rural Development	1. Construction/ Development of village road, culvert 2. Road side drain system

	3. Installation of street light , Solar Home light
Sports	1. Operation and Management of NRL Football Academy 2. Providing Generator set for Indoor Stadium of Dibrugarh District Sports Association 3. Installation of Synthetic Court (Badminton) at Chau- Lung- Syukapha Indoor Stadium 4. Development of badminton coaching Centre at Golaghat 5. Development of Tennis court at Golaghat
Art & Culture	1. Preservation and promotion of Art, Literature and culture of Assam
Rehabilitation of PWDs	1. NRL Helping Hand: Community based rehabilitation (CBR) of persons with disabilities 2. NRL Helping Hand: Providing food support to Physically Challenged inmates
Aspirational District : Darrang	1. Infrastructure and logistic improvement in Magaldoi Civil Hospital 2. Construction of 104 Nos School Toilets 3. Construction of Additional School Building in 66 Schools 4. Electrification in 402 Schools 5. Construction of 28 Nos. of Anganwadi Centers 6. Construction of 52 Nos. of Toilets in the Elementary Schools 7. Operationalisation of Dormitory of Prasuti Mangal Kendra.

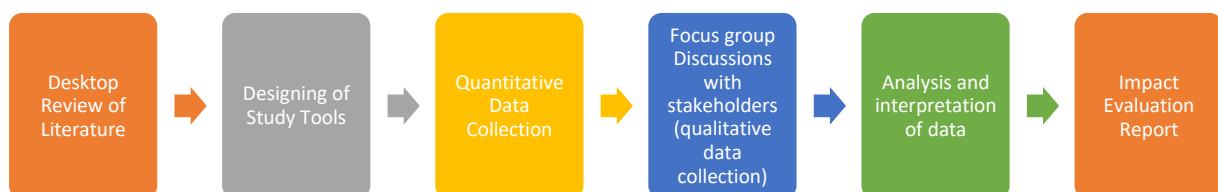
RESEARCH METHODOLOGY

IICA's Six-Step Approach for Research

Research Methodology outlines a series of steps involved in conducting a research with a purpose. The procedure and the techniques used in identifying, collecting and analysing information or data regarding a specific topic is defined through a research methodology. The present study uses quantitative as well as qualitative methods and both the primary and secondary data to assess the needs of the target area. Primary data was collected by conducting extensive fieldwork in all the 51 projects covering 12 broad themes of NRL.

IICA has employed a comprehensive six-step approach. Beginning with an extensive literature review, the study progressed to the preparation, pre-testing, and finalization of research tools for data collection. A dedicated survey team was formed and trained for effective fieldwork across all project areas. The fourth step involved the collection of primary data through in-depth interviews with beneficiaries, supplemented by Focus Group Discussions (FGD) and Key Informant Interviews(KII). Subsequently, the fifth step encompassed the meticulous analysis and interpretation of the collected data. The sixth and final step involved synthesizing these findings into a comprehensive report, along with recommendations. This meticulous process is designed to ensure the credibility, accuracy, and thoroughness of the impact assessment, reflecting IICA's commitment to evidence-based decision-making and the successful execution of projects.

Figure 1: IICA's Six-Step Approach for Research



The implementation of robust monitoring and verification mechanisms is integral to the success of the evaluation conducted. To achieve this, all projects and areas have undergone a meticulous process, including geo-tagging and capturing photographs of each interviewed

beneficiary. Real-time data has been consistently uploaded to the cloud, subject to verification by the relevant authority through a designated app (Kobo Toolbox). Daily backups are diligently maintained, complemented by weekly reviews conducted by the project team to ensure data accuracy and consistency. In addition, a subset of randomly selected samples is contacted for phone verification, adding an extra layer of validation. Field-level monitoring officers were deployed to oversee enumerators, ensuring strict adherence to mapped targets and scheduled visits.

Sources of Data Collection

This assessment has majorly relied on the primary sources of data. Primary data included the interactions with direct beneficiaries.

Methods and Tools of Data Collection

The impact assessment evaluation employed a thorough methodology that seamlessly integrates both quantitative and qualitative methods. With a primary emphasis on assessing the impact of NRL's projects, the evaluation encompassed a total of 51 projects. Conducted by the Indian Institute of Corporate Affairs (IICA), the Impact Assessment adheres to a comprehensive framework known as the Sustainable Development Goals (SDGs) framework.

Sustainable Development Framework

The Sustainable Development Goals (SDGs), also known as the Global Goals, represent a transformative agenda adopted by the United Nations in 2015, serving as a universal call to action to address global challenges. Encompassing 17 goals, the SDGs aim to eradicate poverty, safeguard the planet, and ensure universal peace and prosperity by 2030. A distinctive feature of the SDGs is their integration, acknowledging that actions in one domain have interconnected effects across others. The SDGs emphasize a balanced approach, recognizing the interdependence of social, economic, and environmental sustainability.

The commitment of nations extends to prioritizing progress for those furthest behind, seeking to eliminate poverty, hunger, AIDS, and gender-based discrimination. The SDGs underscore the need for collective efforts, leveraging creativity, knowledge, technology, and financial resources from all sectors of society to achieve meaningful outcomes in every context. In addition to the SDGs, the Sustainable Development Framework provides a structured approach to implementing sustainability initiatives. This framework aligns with the SDGs, offering a systematic methodology for organizations and entities to integrate sustainable practices into

their operations, promoting long-term social, economic, and environmental benefits. By adhering to the Sustainable Development Framework alongside the SDGs, entities can contribute effectively to the global agenda for positive and lasting change.⁶

Figure 2: Sustainable Development Goals ⁷



SDGs used for Social Impact Evaluation by IICA

India is actively addressing climate change and promoting sustainable development through its commitment to the 17 Sustainable Development Goals (SDGs). Key initiatives include reducing emissions intensity, increasing non-fossil fuel capacity, and creating carbon sinks. By April 2023, India was on track to meet 14 of the 33 SDGs, with notable progress in healthcare, sanitation, and electricity access. The Economic Survey 2022-23 revealed that 41 crore Indians escaped poverty between 2005-06 and 2019-21, demonstrating progress toward the SDG of halving poverty by 2030. Recent legislation, such as the Energy Conservation (Amendment) Bill, promotes renewable energy and carbon credit trading. India aims to achieve 65% non-fossil fuel capacity by 2030, surpassing the 40% target achieved in 2021. The Green Hydrogen

⁶ <https://www.undp.org/sustainable-development-goals>

⁷ <https://education.nationalgeographic.org/resource/sustainable-development-goals/>

Mission targets 25 million tonnes of green hydrogen capacity, positioning India as a leader in sustainable energy solutions.

Various government initiatives, including Swachh Bharat Mission and Namami Gange Programme, contribute to environmental protection. The Sustainable Development Goals National Indicator Framework 2023 facilitates monitoring and measuring progress, emphasizing India's commitment to global sustainability. In the Climate Change Performance Index 2023, India ranked 8th globally, showcasing significant strides.⁸

The report specifically employs SDGs 3, 6, 4, 8, 5, 13, 7, 11, 12, 14, and 15 to address healthcare, clean water, education, economic growth, gender equality, clean energy, sustainable cities, responsible consumption, life below water, and life on land. Additionally, initiatives like sports, art & culture, and the rehabilitation of PWDs align with SDGs 3, 4, 5, 11, and 10. The efforts in aspirational district Darrang are focused on SDGs 1, 2, 3, and 4, emphasizing no poverty, zero hunger, good health, and quality education.

The Sustainable Development Goals (SDGs) employed for the social impact evaluation of NRL by IICA include the following:

Table 2: Sustainable Development Goals (SDGs) employed for the social impact evaluation of NRL by IICA

Theme	Name of the SDG employed
Healthcare	SDG 3: Good Health & Wellbeing
Drinking Water	SDG6: Clean Water & Sanitation
Sanitation	SDG6: Clean Water & Sanitation
Skill Development	SDG4: Quality Education
Education	SDG4: Quality Education
Livelihood Enhancement	SDG8: Decent work & Economic Growth
Women Empowerment	SDG5: Gender Equality

⁸ <https://www.businesstoday.in/india-at-100/story/sustainable-india-2047-green-growth-and-environmental-stewardship-395650-2023-08-25>

Environmental Sustainability	SDG13: Clean Action SDG7: Affordable and Clean Energy SDG11: Sustainable Cities & Communities SDG12: Responsible Consumption & Production SDG14: Life below water SDG 15: Life on Land
Forest & Animal Welfare	SDG 15: Life on Land
Rural Development	SDG1: No Poverty SDG2: Zero Hunger
Sports	SDG3: Good Health & Well being SDG4:Quality Education SDG5:Gender Equality
Art & Culture	SDG11: Sustainable cities & communities
Rehabilitation of PWDs	SDG 10:Reduced inequalities SDG4:Quality education SDG8:Decent work & Economic growth SDG11: Sustainable cities & communities SDG17:Partnership for the goals
Aspirational District Darrang	SDG1: No Poverty SDG2: Zero Hunger SDG3: Good Health & Well being SDG4:Quality Education

FINDINGS & IMPACT EVALUATION

Rubber Plantation

In the picturesque landscapes of Northeast India, a remarkable story of sustainable development unfolded in the heart of Assam. Numaligarh Refinery Limited (NRL), renowned for its industrial prowess, embarked on a journey to foster ecological harmony through Corporate Social Responsibility (CSR). Recognizing the need for responsible economic development, NRL's narrative began with the cultivation of rubber in the fertile soil of Assam. The rich alluvial plains provided an ideal canvas for establishing sustainable rubber plantations, designed to benefit local communities and create a reliable source of income.



Image 1 : The beneficiaries have planted rubber plants provided by NRL

As NRL's rubber plantations flourished, the initiative showcased a commitment to environmental stewardship and community empowerment. The testimonies collected by IICA from local farmers highlights the transformative impact of rubber farming on their lives. Though financial benefits are yet to be realized, the project has already become a source of employment for many.

During the social impact evaluation study conducted for NRL by IICA, the farmers revealed the profound impact of NRL's rubber plantation initiative. While economic gains are

anticipated in the near future with the imminent harvesting of rubber latex in January 2024, the immediate benefits include the creation of a healthy environment and employment opportunities. In this ongoing tale, NRL's rubber plantation initiative stands as a testament to responsible corporate citizenship. As the rubber trees mature, the landscape transforms, symbolizing a harmonious coexistence between industry, agriculture, and nature. The story continues to evolve, promising a sustainable and green future for the communities of Assam.

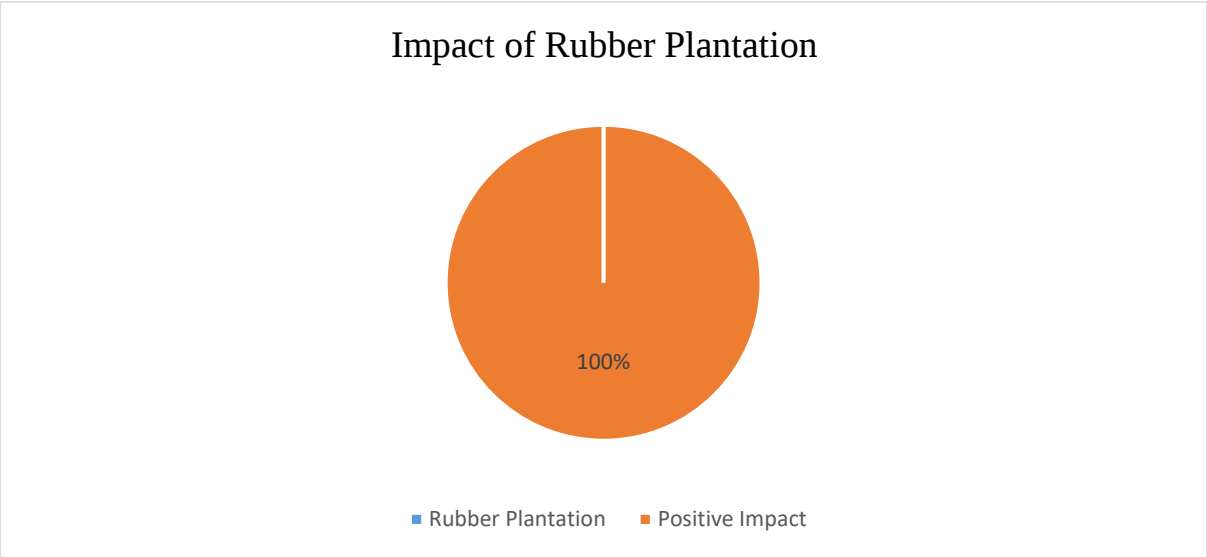


Figure 1: Impact of Rubber Plantation on the lives of the beneficiaries

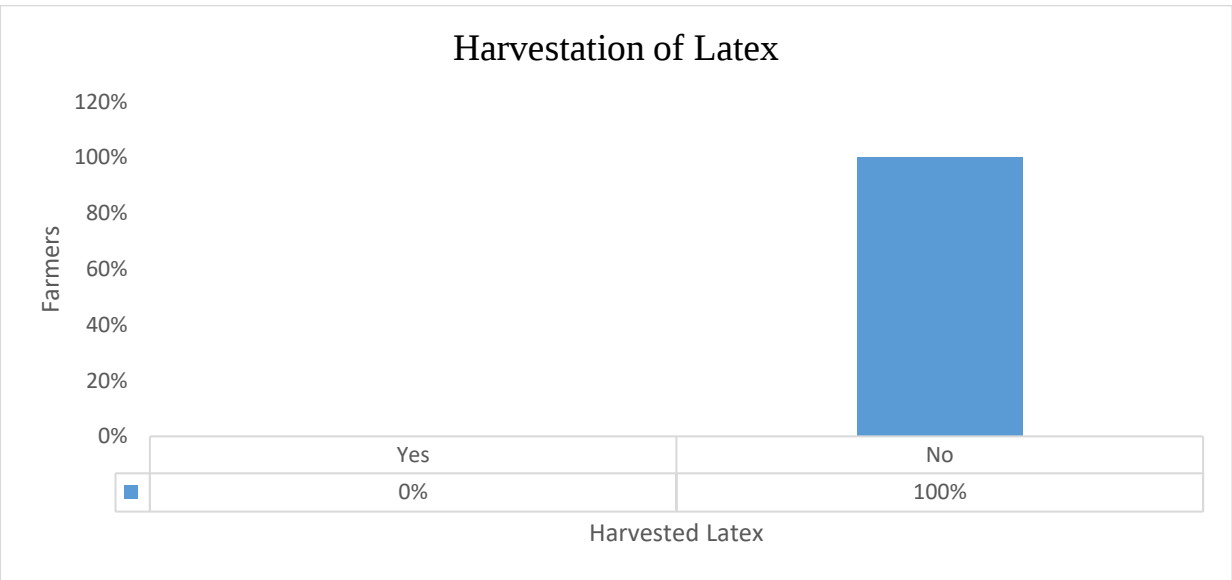


Figure 2: Result of the latex harvest

The Social Impact Evaluation study conducted by IICA reveals a compelling insights, all farmers who were engaged in the rubber plantation initiative facilitated by Numaligarh Refinery Limited (NRL) are yet to harvest latex from their rubber trees.

In terms of environmental stability, sustainable agriculture reports consistently highlight the necessary time for crops like rubber to reach maturity and become productive. This mirrors the current scenario in NRL-supported rubber plantations, where delayed latex harvesting signifies a crucial growth phase, allowing trees to mature and establish robust root systems, thereby significantly contributing to local ecosystem stability. This extended cultivation period plays a vital role in soil conservation, carbon sequestration, and overall biodiversity enhancement, aligning with national and global initiatives promoting sustainable farming to combat climate change and preserve environmental health.

From an economic empowerment perspective, the absence of latex harvesting at this stage should not be solely perceived as a delay in financial gains. Instead, it reflects a strategic investment in the long-term economic empowerment of the community. Sustainable agriculture initiatives stress the importance of patience, acknowledging that initial phases often involve substantial upfront expenses and deferred returns.

The economic impact is anticipated to unfold as the rubber trees mature, and latex harvesting commences. This resonates with the overarching objective of NRL's CSR initiative – to establish sustainable income sources for local communities, breaking the cycle of dependency on traditional crops and diversifying income streams. The ultimate aim extends beyond mere financial gain, focusing on the creation of resilient and self-sustaining livelihoods.

The observed delay in latex harvesting among NRL's rubber plantation beneficiaries aligns seamlessly with broader insights from sustainable agriculture reports. This approach highlights the dual benefits of environmental stability and long-term economic empowerment, promising a holistic and enduring impact on the involved communities.

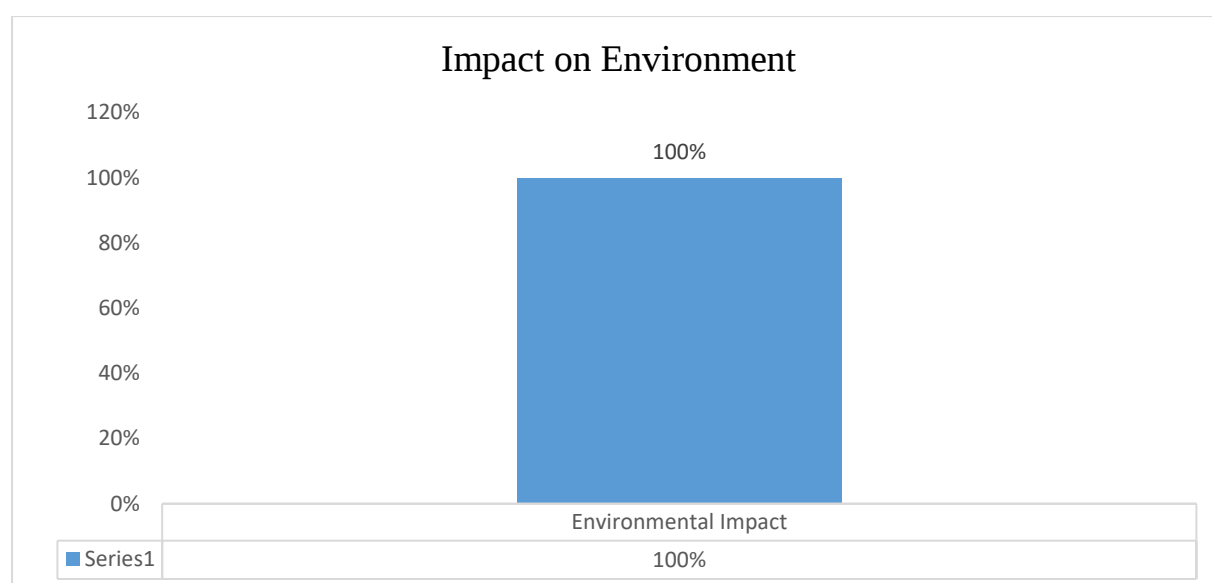
Impact on livelihood enhancement due to Rubber Plantation

The Impact assessment study conducted by IICA, indicates that despite considerable time and effort invested in rubber planting, individuals involved have yet to realize any significant financial benefits. While employment opportunities have been created, immediate economic progress remains elusive due to the lack of rubber latex harvesting and tree sales. However, there is optimism about future profitability once latex harvesting commences, with some

individuals anticipating substantial profits. The activity is also recognized for its positive environmental impact, suggesting non-monetary benefits. Economic stability appears to hinge on the successful harvesting and sale of rubber latex, emphasizing the dependency of livelihoods on the outcomes of this endeavor.

Impact on Environment due to Rubber Plantation

Figure 3: Impact on environment due to rubber plantation



When questioned about the environmental impact of rubber plantation by IICA, all beneficiaries unanimously express an overall positive perception, indicating a widespread acknowledgment of its beneficial effects on the environment.

Sustainability of Rubber Plantation

The impact assessment findings reveal a mixed perspective on the sustainability of the rubber plantation. While some respondents express intentions to ensure long-term sustainability through measures like regular maintenance and disease prevention, others highlight concerns about the lack of comprehensive planning and provision of necessary medicines for tree health. Despite acknowledging the importance of consulting agricultural experts and planting more rubber seedlings, there is a notable absence of concrete long-term plans to address sustainability challenges. Moreover, the reliance on profits from rubber latex sales to fund

future planting activities raises questions about the financial sustainability of the plantation. These findings highlights the need for more robust sustainability strategies, including proactive disease prevention measures and effective resource allocation, to ensure the continued viability of the rubber plantation in the long term.

Image 2: The beneficiary of rubber plantation



The findings also highlights crucial areas of concern and opportunity aligned with Sustainable Development Goals (SDGs) 8, 9, 12, and 15. SDG 8, Decent Work and Economic Growth, highlights the economic significance of the plantation, yet the reliance solely on profits from rubber latex sales for future planting activities raises questions about the sustainability of livelihoods and employment. Meanwhile, SDG 9, Industry, Innovation, and Infrastructure, emphasizes the need for innovative solutions to address challenges such as disease prevention and resource allocation within the plantation. However, the absence of concrete long-term plans indicates a potential gap in leveraging innovation to foster sustainable growth. SDG 12, Responsible Consumption and Production, calls for sustainable agricultural practices, but concerns about the lack of comprehensive planning and provision of necessary medicines highlight the need to enhance resource efficiency and minimize waste within the value chain. Finally, SDG 15, Life on Land, emphasizes the importance of sustainable land management and biodiversity conservation, suggesting opportunities to implement sustainable planting and tapping practices that preserve ecosystems while ensuring the plantation's long-term viability. Overall, addressing these sustainability challenges through proactive measures aligned with the

SDGs is essential to fostering resilient, inclusive, and sustainable development within the rubber plantation context.

Effectiveness of Rubber Plantation

NRL's rubber plantation initiative in Assam showcases effectiveness through its commitment to the protection of environment, social empowerment, and economic sustainability .The initiative promotes soil conservation and biodiversity enhancement, aligning with global efforts to combat climate change. The generation of employment opportunities demonstrates immediate social impact, while the anticipation of future financial gains signifies a strategic investment in long-term economic empowerment for local communities. Despite the initial absence of significant profits, NRL's initiative lays the foundation for resilient livelihoods and a sustainable future, exemplifying responsible corporate citizenship and promising enduring benefits for the region.

Value Chain Mechanism for Rubber Plantation

Figure 4: Value Chain mechanism for Rubber Plantation

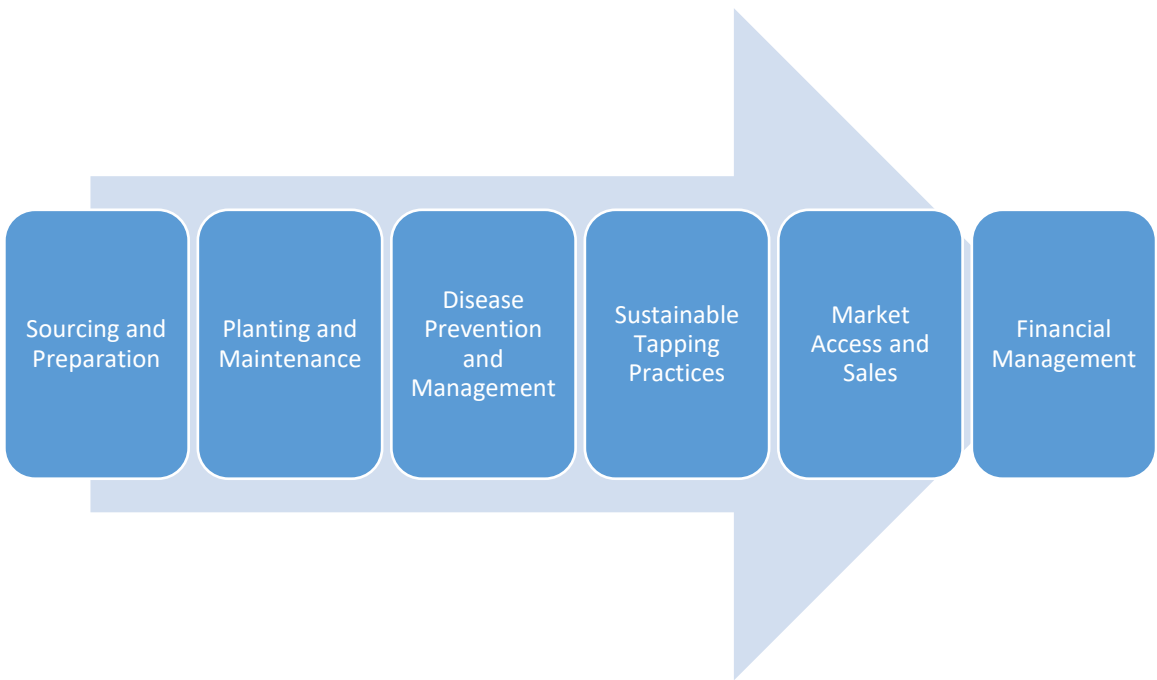


Table 1: Detailed explanation of the Value Chain Mechanism for Rubber Plantation

STEPS	EXPLANATION
Sourcing and Preparation	Begin by ensuring a consistent supply of quality inputs such as rubber seedlings, fertilizers, and pesticides. Collaborate with reputable suppliers to obtain these inputs and maintain their quality. Additionally, invest in proper land preparation techniques to optimize soil fertility and ensure favorable growing conditions for the rubber trees.
Planting and Maintenance	Implement efficient planting practices and regular maintenance routines to foster healthy tree growth. This includes activities such as weeding, pruning, and irrigation to support optimal development. Ensure the availability of skilled labor or training programs to carry out these tasks effectively.
Disease Prevention and Management	Develop a comprehensive disease prevention strategy in collaboration with agricultural experts. This may involve regular monitoring for signs of diseases, timely application of appropriate pesticides, and implementing cultural practices to minimize disease risks. Invest in research and development to identify disease-resistant varieties and sustainable disease management approaches.
Sustainable Tapping Practices	Plan for sustainable tapping practices to maximize latex yield while preserving tree health and longevity. Implement proper tapping techniques, tapping schedules, and latex collection methods to minimize damage to the trees and ensure consistent latex production over the long term. Educate workers and stakeholders about the importance of sustainable tapping practices and incentivize compliance through rewards or certification programs.
Market Access and Sales	Develop strategies to access markets for rubber latex sales once harvesting begins. Establish partnerships with rubber processors or buyers to secure reliable sales channels and negotiate favorable pricing arrangements. Explore opportunities for value-added products or niche

	markets to diversify revenue streams and maximize returns on latex sales.
Financial Management	Implement sound financial management practices to ensure the sustainability of the plantation's operations. This includes budgeting for ongoing expenses such as labor, inputs, and maintenance, as well as setting aside funds for future investments in expansion or innovation. Monitor financial performance regularly and adjust strategies as needed to optimize resource allocation and profitability.

Swa Nirbha

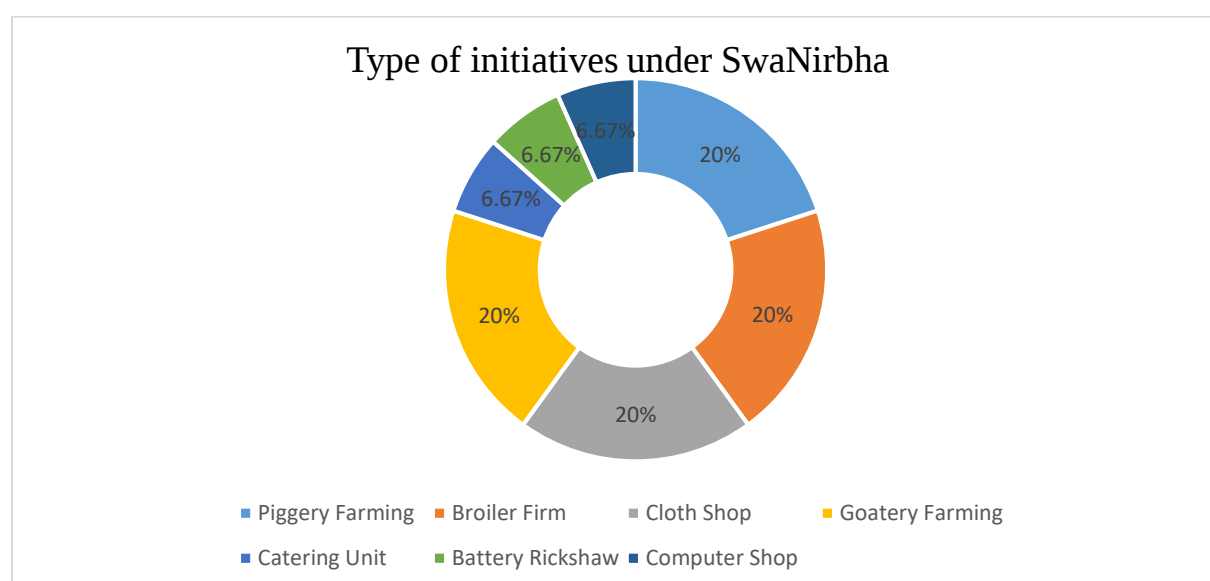
The Social Impact Evaluation study conducted by IICA highlights, since becoming part of the Swanirbha project, beneficiaries have experienced remarkable improvements in their lives. The initiative, designed to empower unemployed youth and enhance livelihoods, has emerged as a beacon of hope in the community. Through employment opportunities and avenues for financial independence, countless individuals have found renewed purpose and inspiration. From transitioning from traditional occupations like tea cultivation to more profitable ventures such as pig farming, beneficiaries have witnessed tangible economic growth.

Image 2: The beneficiary of the SwaNirbha initiative of NRL



Collaborative efforts in initiatives like broiler farming and catering units have not only bolstered economic stability but also fostered a sense of community and shared success. Despite encountering challenges in ventures like battery rickshaw and goat rearing, the project has remained steadfast in its mission to drive economic empowerment. As beneficiaries continue their journey with Swanirbha, there is optimism for further growth and prosperity, highlighting the project's significance in transforming lives and fostering sustainable livelihoods within the community.

Figure 5: Types of initiatives under SwaNirbha



Impact of SwaNirbha

Recent data highlights the persistent issue of poverty in India, with a significant portion of the population still facing multidimensional poverty according to the National Multidimensional Poverty Index (MPI) released by the NITI Aayog. The COVID-19 pandemic has further exacerbated livelihood challenges across various segments of the population, leading to job losses, reverse migration, and economic slowdowns⁹. However, amidst these challenges, the SwaNirbha project of NRL has emerged as a beacon of hope for many beneficiaries. The testimonials provided by beneficiaries of the SwaNirbha project to IICA, highlight its significant impact on improving their financial situations and fostering economic empowerment. Respondents express gratitude for the employment opportunities provided by NRL, which has enabled them to become financially self-reliant and even expand their businesses independently. For instance, individuals who were previously involved in tea cultivation have found greater profitability in ventures like pig farming and broiler farming, contributing to their economic well-being. Collaborative efforts within the project, such as shared income from boiler farming, have further bolstered economic stability for participants and their families.



⁹ <https://www.nabard.org/auth/writereaddata/tender/2501231727state-of-indias-livelihoods-report.pdf>

Additionally, the initiative has sparked interest and cooperation among neighbors, leading to the establishment of similar ventures and inspiring others to pursue income-generating activities. For instance, the success of pig farming has not only increased individual earnings but has also facilitated low-cost event hosting, such as weddings and funerals, benefitting the wider community. Similarly, initiatives like sewing centers have empowered women to learn new skills, earn incomes, and inspire others within their communities to pursue similar endeavors. For instance, individuals previously engaged in unprofitable businesses like firewood and garden leaf sales have seen a remarkable turnaround in their fortunes with the establishment of ventures like pig farming, which generate consistent profits throughout the year.

Furthermore, the project has facilitated improvements in living conditions, such as replacing bamboo walls with concrete walls and enabling children to attend better schools. The expansion of initiatives like sewing centers has not only increased income but has also fostered savings and economic stability for participants. However, some participants have not yet seen significant changes in their daily lives, such as those involved in the clothing shop venture or those affected by setbacks like losses from goat rearing projects. Overall, the Swanirbha project has brought about tangible improvements in the lives of its beneficiaries, enhancing their economic well-being and quality of life.

Many respondents express a marked increase in enthusiasm and newfound knowledge gained through their involvement in various aspects of the project, such as broiler farming, pig farming, and catering. The project has not only equipped them with practical skills related to their respective ventures but has also provided insights into market systems and business operations, enhancing their overall proficiency. Furthermore, beneficiaries have taken initiative in skill development within their communities, sharing their expertise and experiences to train others and contribute to collective growth.

Despite encountering setbacks, such as the failure of ventures like battery rickshaw and goat rearing, beneficiaries acknowledge the overall positive impact of the project in empowering them economically. Additionally, testimonials indicate that the project has not only strengthened beneficiaries' financial positions but has also contributed to their mental and emotional well-being. Overall, the Swanirbha project emerges as a vital catalyst for

socioeconomic upliftment, providing tangible benefits to participants and fostering a sense of empowerment within the community.

Recommendations by Beneficiaries

The testimonials provided by project beneficiaries underscore the potential of the project to empower individuals financially and foster self-reliance within the community. Participants express gratitude for the opportunities provided by the project and advocate for its expansion to benefit more young people like themselves. Requests for increased financial support from NRL highlight the importance of ongoing investment in projects like integrated farming to maximize their impact. Suggestions for project improvement include increasing funding to expand farms and raise more broilers or pigs, as well as offering advice on diversifying income streams, such as by opening multiple catering units or utilizing sewing centers to inspire entrepreneurship within the community. However, some participants express a lack of experience or ideas regarding further project support, while others indicate a need for more discussion and planning within their Self-Help Groups to generate innovative suggestions for project enhancement. Overall, these testimonials reflect a collective desire for continued support and growth opportunities through the project, emphasizing its potential to drive long-term economic empowerment and self-sufficiency among participants.

Sustainability of SwaNirbha

The SwaNirbha project, spearheaded by NRL, stands as a commendable example of sustainable development in alignment with the United Nations Sustainable Development Goals (UN SDGs). Primarily focusing on economic empowerment and livelihood enhancement, the initiative embodies the principles of several SDGs, notably Goal 1 (No Poverty), Goal 8 (Decent Work and Economic Growth), and Goal 9 (Industry, Innovation, and Infrastructure).

Through the creation of employment opportunities and avenues for financial independence, the project addresses the root causes of poverty (Goal 1) by lifting individuals out of economic hardship and empowering them to sustainably improve their livelihoods. By transitioning from traditional occupations like tea cultivation to more profitable and sustainable ventures such as pig farming and broiler farming, beneficiaries experience tangible economic growth, contributing to broader economic prosperity within the community (Goal 8).



Furthermore, the project fosters innovation and infrastructure development (Goal 9) by encouraging the adoption of modern farming techniques and the establishment of new business ventures. Collaborative efforts in initiatives like broiler farming and catering units not only bolster economic stability but also foster a sense of community and shared success, promoting social cohesion and inclusivity.

Moreover, the project's emphasis on skill development and capacity building ensures the long-term sustainability of economic empowerment efforts. By equipping participants with practical skills and knowledge, the project not only enhances their immediate earning potential but also cultivates a culture of continuous learning and innovation, essential for achieving sustainable development goals in the long run.

However, to ensure the project's continued success and sustainability, it is crucial to address challenges and incorporate feedback from beneficiaries. Recommendations for increased financial support and project expansion align with the principles of sustainable development, emphasizing the need for ongoing investment in initiatives that promote economic empowerment, social inclusion, and environmental stewardship.

Effectiveness of Swa Nirbha

The effectiveness of the Swanirbha project can be observed through various dimensions. Firstly, it has significantly improved the financial situations of its beneficiaries, as evidenced

by testimonials highlighting increased incomes and savings. The project's focus on providing employment opportunities, particularly in sectors like pig farming and broiler farming, has enabled individuals to become financially self-reliant and even expand their businesses independently. Moreover, collaborative efforts within the project, such as shared income from boiler farming, have further bolstered economic stability for participants and their families.



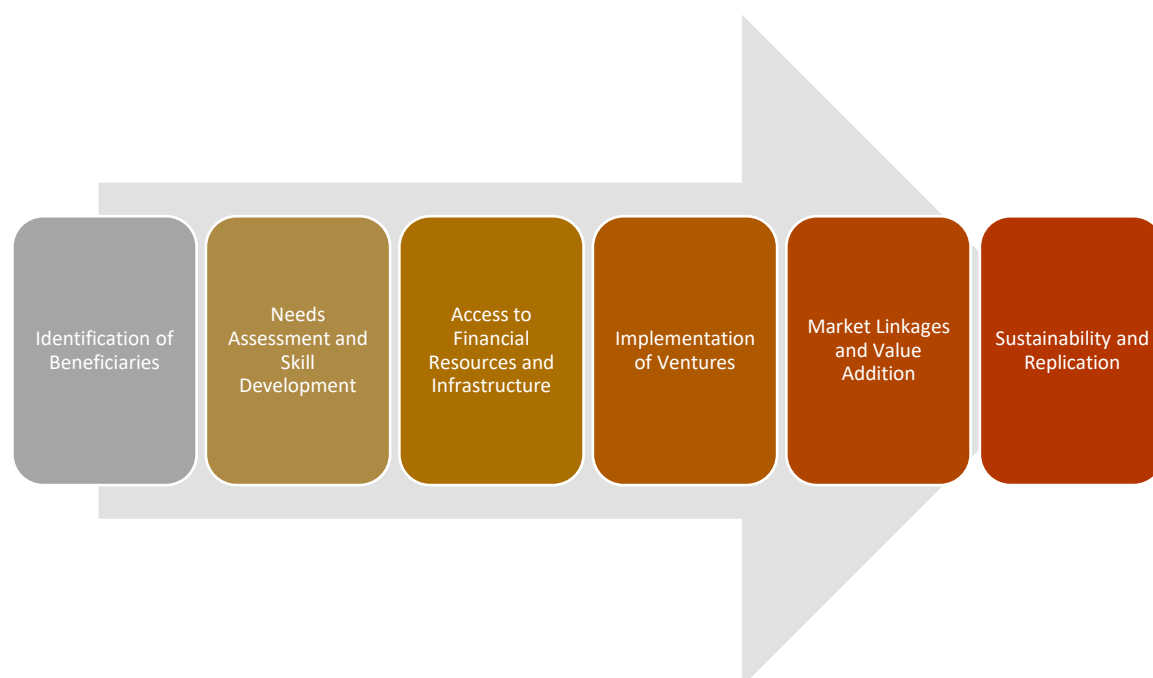
Furthermore, the project has sparked interest and cooperation among neighbors, leading to the establishment of similar ventures and inspiring others to pursue income-generating activities. Initiatives like sewing centers have empowered women to learn new skills, earn incomes, and inspire others within their communities to pursue similar endeavors. These collective efforts have not only enhanced economic well-being but also fostered a sense of community and shared success.

In addition to economic empowerment, the project has facilitated improvements in living conditions, such as better housing and access to education for children. The expansion of initiatives like sewing centers has not only increased income but has also fostered savings and economic stability for participants.

The effectiveness of the Swanirbha project lies in its tangible impact on improving the quality of life and fostering socio-economic upliftment within the community. Through employment generation, skill development, and collaborative initiatives, the project has successfully

empowered individuals to break the cycle of poverty and strive towards a more sustainable and prosperous future.

Value Chain Mechanism for Swa Nirbha



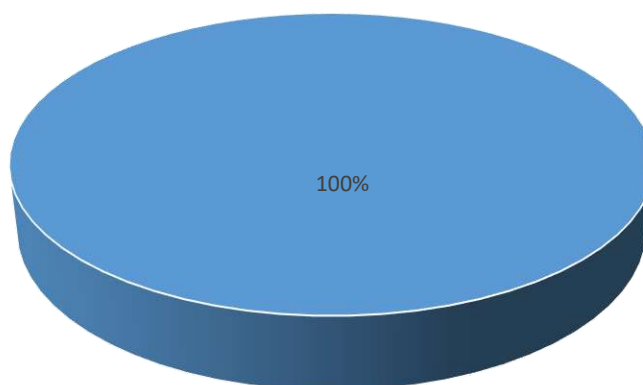
STEPS	EXPLANATION
Identification of Beneficiaries	Identification of beneficiaries in rural or semi urban areas within the vicinity of NRL, focusing on unemployed youth, women, and marginalized communities, leveraging local government databases, community networks, and outreach programs
Needs Assessment and Skill Development	Beneficiaries undergo comprehensive needs assessments to identify their skills, interests, and entrepreneurial aspirations. Tailored training programs should be designed in collaboration with local vocational training institutes, agricultural extension services, and skill development organizations to provide practical training in high-demand sectors such as agriculture, animal husbandry, food processing, and handicrafts or the sectors came out after the need assessment of the beneficiaries

Access to Financial Resources and Infrastructure	Education must be provided for the access to financial resources through microfinance institutions, government-sponsored schemes like Mudra Yojana, and community-based savings and credit groups. Infrastructure support can be provided in the form of community production centers, agro-processing units, and shared facilities for storage, packaging, and transportation.
Implementation of Ventures	Beneficiaries implement their business ventures based on their training and interests, such as setting up small-scale farms for poultry, dairy, or horticulture, establishing food processing units, or launching artisanal craft enterprises. Technical assistance and mentoring are provided by local experts and extension officers to ensure proper implementation and management of the ventures.
Market Linkages and Value Addition	Connecting beneficiaries with local markets, retailers, wholesalers, and online platforms. Value addition activities like product branding, packaging, and quality certification are emphasized to enhance the marketability and competitiveness of products in both domestic and international markets.
Sustainability and Replication	Sustainability and scalability of project interventions by fostering entrepreneurship, building community resilience, and promoting local ownership. Successful business models and best practices are documented and shared with other communities, encouraging replication and scaling up of similar initiatives across different regions of India.

Custom Hiring Centre

NRL has set up Custom Hiring Centres (CHCs) with the objective of providing small and marginal farmers access to a diverse range of agricultural machinery and equipment, thus mitigating the challenges associated with the high costs of individual ownership. This endeavor aims to boost mechanization in regions where farm power availability is limited and to offer hiring services for various agricultural tasks. The overarching goal is to enhance the efficiency of farming operations, particularly during cropping seasons, by expanding mechanized activities, especially in small and marginal land holdings. CHCs have the potential to address the machinery needs of a significant proportion of land holdings, particularly those owned by small and marginal farmers, who constitute the majority of farmers.¹⁰

Utilisation of the services of CHC by the beneficiaries



Impact of Custom Hiring Centres

The testimonials from beneficiaries gathered by IICA, highlights the significant impact of Custom Hiring Centres (CHCs) on their agricultural activities, emphasizing increased convenience, efficiency, and economic empowerment. By providing access to farming machinery and equipment, CHCs have facilitated a transition to mechanized farming practices, reducing the challenges and time associated with traditional methods. This shift has not only improved productivity and quality of agricultural produce but has also led to increased profits for beneficiaries, contributing to their economic well-being.

¹⁰ https://agritech.tnau.ac.in/banking/nabard_pdf/Farm%20mechanization/3.Custom_Hiring_Centre.pdf

Furthermore, CHCs have had a broader community impact by providing access to machinery for small and marginal farmers, thereby fostering overall agricultural development in the region. While enhancing livelihoods, the adoption of mechanized farming practices facilitated by CHCs also holds potential for environmental sustainability, contributing to long-term agricultural resilience and resource conservation.



The availability of Custom Hiring Centre (CHC) machines has significantly impacted farming practices, particularly for those who previously relied on manual methods or lacked access to machinery. Beneficiaries emphasize the time-saving benefits of CHC machines, enabling them to complete farming tasks efficiently and focus on other important activities. Formerly, when manual labor or traditional methods were employed, farming required considerable time and effort. However, with CHC machines, tasks such as plowing, harvesting, and threshing are accomplished in a fraction of the time, leading to increased productivity and economic viability. This transition to mechanized farming has not only reduced the burden on farmers but has also contributed to higher crop yields. The introduction of CHC machines by NRL has transformed farming methods, reducing suffering and increasing overall agricultural output in the community.

Impact on Crop yield

Farmers have reported a doubling in crop production, particularly in paddy farming, which historically required substantial time and effort. The introduction of spray machines from CHC has effectively addressed pest infestations, further enhancing crop quality and yield.

Additionally, the availability of better quality seeds has contributed to increased productivity and improved overall agricultural output. The adoption of mechanical equipment has not only saved time and reduced labor but has also led to better earning opportunities for farmers, enabling them to diversify their agricultural activities. These accounts highlight the transformative impact of CHC-provided equipment on agricultural production, emphasizing the importance of technological interventions in driving sustainable agricultural development.



Impact on Labour cost

The utilization of equipment provided by Custom Hiring Centers (CHCs) has resulted in significant savings in both labor cost and operational efficiency for farmers. By reducing the need for manual labor in various agricultural operations, such as threshing paddy and preparing fields, CHC equipment has contributed to a decrease in overall farming costs. Testimonials from beneficiaries highlight the tangible impact of CHC-provided machinery on labor efficiency, with farmers reporting reduced reliance on laborers compared to traditional farming methods. Additionally, the availability of seeds for crop production and the provision of equipment for tasks like threshing paddy at lower costs further underscore the economic benefits of CHC interventions. This shift towards mechanized farming not only enhances operational efficiency but also empowers farmers to engage in other income-generating activities, ultimately improving their overall economic situation.



Sustainability of Custom Hiring Centres

The initiative of establishing Custom Hiring Centers (CHCs) demonstrates sustainability through several key aspects:

Resource Efficiency

CHCs promote the efficient use of agricultural resources by providing access to mechanized farming equipment. This reduces the need for manual labor and traditional farming methods, optimizing resource utilization and minimizing waste. By utilizing machinery effectively, farmers can achieve higher productivity with fewer inputs, leading to sustainable resource management.

Economic Viability

CHCs contribute to the economic sustainability of farming communities by offering affordable access to machinery and equipment. By mitigating the high costs associated with individual ownership, CHCs enable small and marginal farmers to adopt mechanized farming practices without significant financial burdens. This enhances the profitability of farming operations, ensuring the economic viability of agricultural livelihoods in the long term.

Environmental Conservation

Mechanized farming facilitated by CHCs promotes environmentally sustainable agricultural practices. By reducing the reliance on manual labor and traditional methods that may contribute to soil degradation and environmental damage, CHCs help preserve natural resources and biodiversity. Additionally, CHCs may offer support for eco-friendly farming techniques such as integrated pest management, further enhancing environmental sustainability.

Community Resilience

CHCs foster community resilience by empowering farmers to enhance their agricultural productivity and income levels. By providing access to machinery, seeds, and cultivation support, CHCs enable farmers to diversify their agricultural activities and improve their resilience to external shocks such as climate change or market fluctuations. This strengthens the overall resilience of agricultural communities and contributes to long-term sustainability.

Inclusive Development

The establishment of CHCs ensures inclusive agricultural development by catering to the needs of small and marginal farmers, who often face barriers to accessing modern farming technologies. By providing equitable access to mechanized equipment and support services, CHCs promote social inclusivity and contribute to reducing disparities within rural communities.



Sustainable Development Goals & Custom Hiring Centres

The establishment of Custom Hiring Centers (CHCs) is closely linked to several Sustainable Development Goals (SDGs) outlined by the United Nations. Here's how CHCs contribute to the achievement of key SDGs:

SDG 1: No Poverty

CHCs help alleviate poverty by providing small and marginal farmers with access to affordable agricultural machinery and equipment. By reducing the costs associated with farming operations, CHCs empower farmers to increase their productivity and incomes, thus contributing to poverty reduction in rural communities.

SDG 2: Zero Hunger

CHCs play a vital role in promoting food security and enhancing agricultural productivity. By facilitating mechanized farming practices and providing support services such as seeds and cultivation assistance, CHCs enable farmers to increase crop yields and diversify their agricultural activities, ultimately contributing to the goal of zero hunger.

SDG 8: Decent Work and Economic Growth

The availability of CHCs creates economic opportunities in rural areas by stimulating the agricultural sector and supporting livelihoods. By promoting mechanization and enhancing productivity, CHCs contribute to economic growth, job creation, and income generation within farming communities.

SDG 9: Industry, Innovation, and Infrastructure

CHCs promote innovation and technological advancement in agriculture by providing access to modern farming equipment and machinery. By investing in agricultural infrastructure and technological solutions, CHCs contribute to the development of resilient and sustainable agricultural systems.

SDG 10: Reduced Inequalities

CHCs address inequalities in access to agricultural resources by providing equitable access to machinery and support services for small and marginal farmers. By reducing disparities in farming capabilities and opportunities, CHCs contribute to building more inclusive and equitable agricultural systems.

SDG 12: Responsible Consumption and Production

CHCs promote sustainable agricultural practices by optimizing resource use and minimizing waste through mechanization. By encouraging efficient farming methods and reducing environmental impact, CHCs support responsible consumption and production patterns.

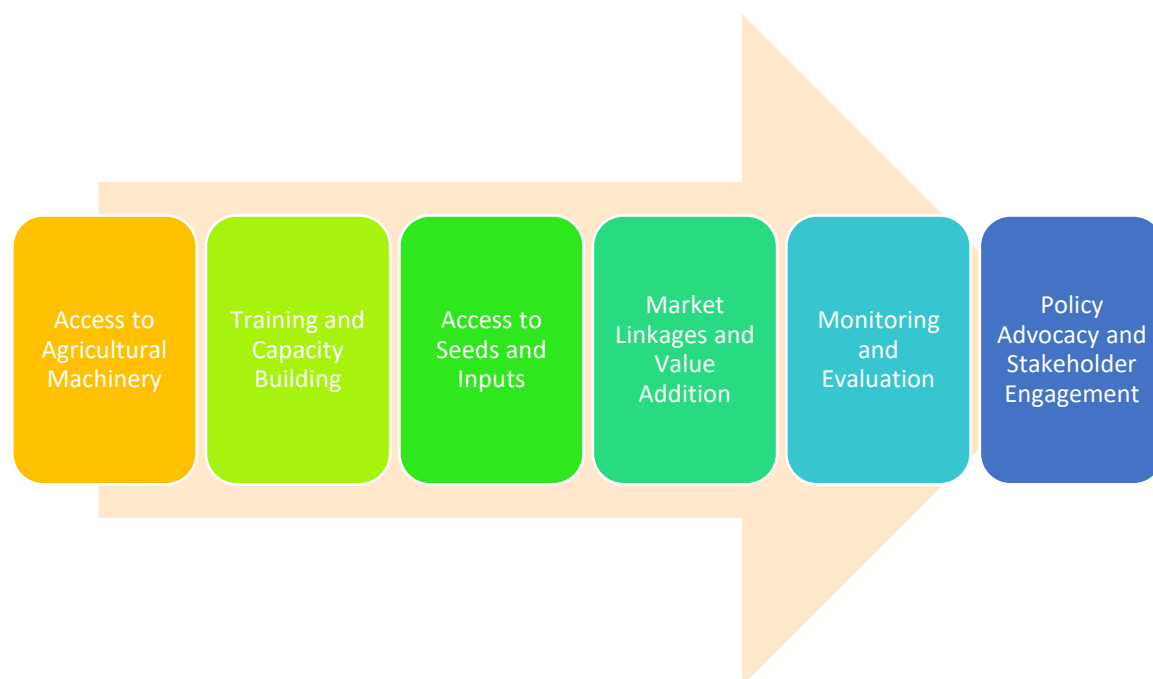
SDG 13: Climate Action

The adoption of mechanized farming practices facilitated by CHCs can contribute to climate change mitigation and adaptation efforts. By promoting sustainable land management practices and reducing greenhouse gas emissions associated with traditional farming methods, CHCs support climate-resilient agriculture.

Effectiveness of Custom Hiring Centres

The feedback provided by beneficiaries to IICA, highlights the effectiveness of integrating mechanical equipment, facilitated by Custom Hiring Centers (CHCs), into agricultural practices. The utilization of these tools has resulted in a notable improvement in agricultural quality and productivity. Farmers have reported solving long-standing issues such as water scarcity, leading to increased grain yields in paddy farming. Moreover, the adoption of mechanical tools has enhanced overall farm productivity and efficiency. Farmers have diversified their agricultural activities, incorporating crops like tomatoes and potatoes, thus expanding their income streams. Additionally, the accessibility of crop seeds and cultivation support has contributed to increased self-reliance among farmers. The transition from manual labor to mechanized farming has not only reduced operational costs but has also optimized resource utilization, ultimately leading to higher productivity and economic empowerment within the community. These testimonies affirm the effectiveness of CHCs in driving positive agricultural outcomes, highlighting their role in transforming traditional farming practices and fostering sustainable agricultural development.

Value Chain Mechanism for Custom Hiring Centres



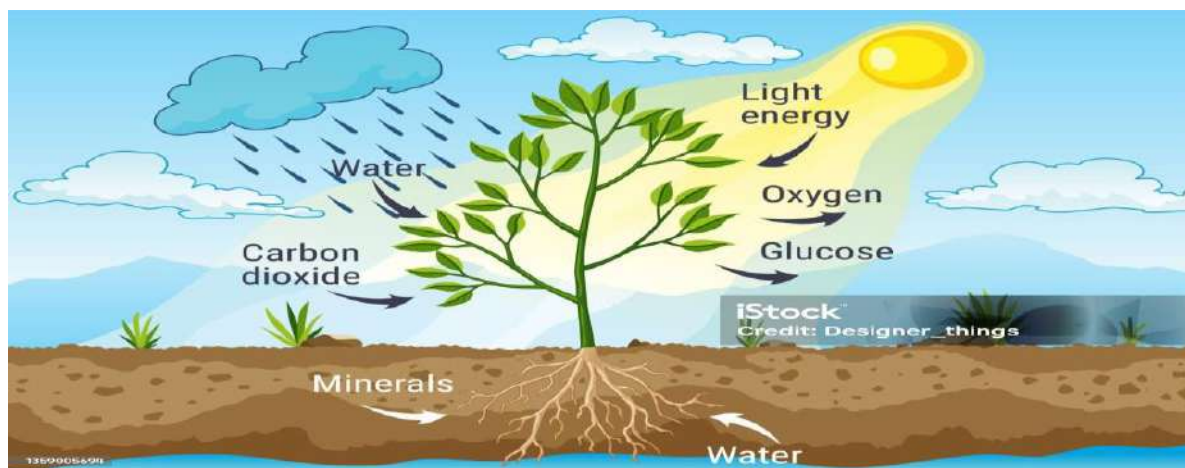
Theme	Explanation
Access to Agricultural Machinery	Custom Hiring Centers (CHCs) should provide proper accessibility to small and marginal farmers with a diverse range of agricultural machinery and equipment, including tractors, power tillers, thresher machines, water pumpsets, and more. This access enables farmers to mechanize various farming operations, such as plowing, harvesting, and threshing, which leads to increased efficiency, productivity, and cost-effectiveness in agricultural activities.
Training and Capacity Building	Offer training and capacity-building programs to farmers on the proper use and maintenance of machinery, as well as modern farming techniques and best practices. Through these programs, farmers acquire the necessary skills and knowledge to effectively utilize the available machinery and optimize their farming practices. Training sessions also cover aspects like crop management, soil health, and pest control, empowering farmers to make informed decisions and improve their overall agricultural productivity and sustainability.

Theme	Explanation
Access to Seeds and Inputs	By ensuring the availability of high-quality seeds, fertilizers, pesticides, and other agricultural inputs, CHCs enable farmers to enhance crop quality, minimize production risks, and achieve better yields. Moreover, CHCs often facilitate the distribution of certified seeds and promote the adoption of improved crop varieties, further enhancing the resilience and sustainability of agricultural production systems.
Market Linkages and Value Addition	By integrating farmers into formal markets and value chains, CHCs should enhance income opportunities and promote economic empowerment among rural farming communities.
Monitoring and Evaluation	To ensure the effectiveness and sustainability of their interventions, NRL should conduct regular monitoring and evaluation activities to assess the impact of their services on farmers' livelihoods and agricultural outcomes. Through data collection, analysis, and feedback mechanisms, NRL should identify areas for improvement, measure progress towards set objectives, and make informed decisions to optimize program delivery and resource allocation. Continuous monitoring and evaluation foster accountability, transparency, and learning within the CHC ecosystem, ultimately enhancing its impact and sustainability.
Policy Advocacy and Stakeholder Engagement	Engaging farmers in policy advocacy and collaboration with relevant stakeholders, including government agencies, agricultural extension services, research institutions, NGOs, and community-based organizations. By advocating for supportive policies, regulations, and investments in agricultural mechanization and rural development.

Fruit Bearing Sapling

Planting fruit-bearing tree saplings is incredibly fulfilling, both as an activity and for the benefits they provide. Let's delve into some of the ways in which fruit trees contribute to and sustain life.

Remember photosynthesis? Here's a quick biology refresher!



Fruit trees sustain themselves through the process of photosynthesis. Their leaves absorb carbon dioxide, and their roots absorb water. Using sunlight as energy, these elements are converted into compounds like glucose, which nourish the tree. Oxygen is a delightful by-product of this process, released into the atmosphere. Remarkably, one fruit tree can produce enough oxygen for two people in a year!

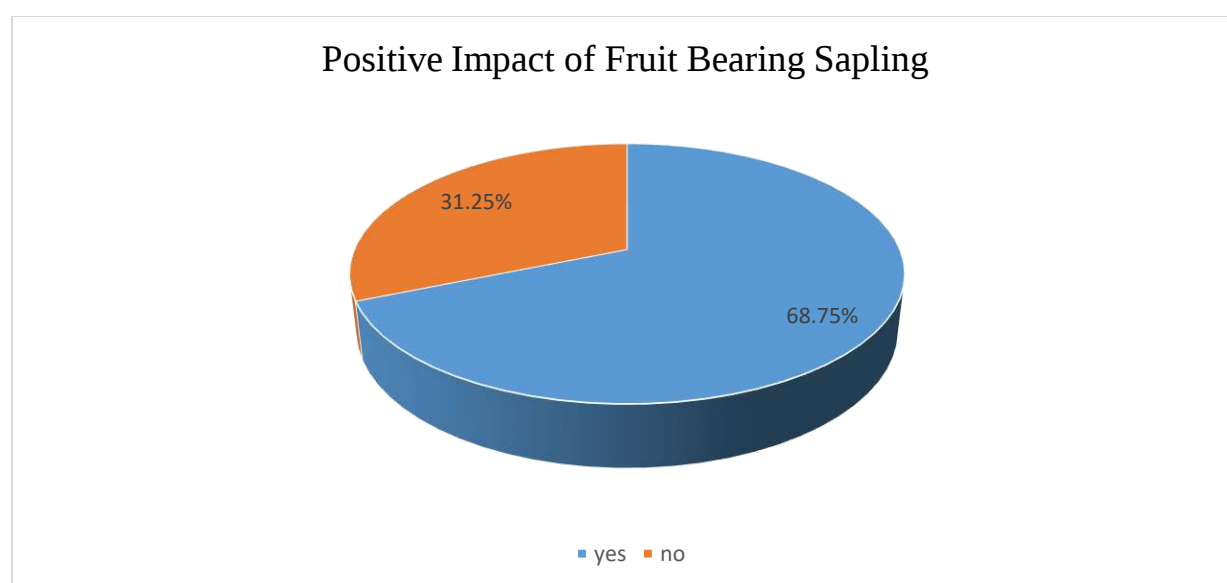
This absorption of CO₂ and release of O₂ significantly diminishes pollution, enhances air quality, and lowers temperatures - all of which combat climate change! Research from Lancaster University revealed that roadside fruit trees can reduce nearby indoor pollution by over 50%!

Fruit trees play a crucial role in our protection. Deforestation has been directly linked to the severity of damage caused by floods and cyclones in recent years. Fruit trees are also essential

for maintaining healthy ecosystems and promoting biodiversity. Furthermore, by enhancing the health of soil and groundwater, they create an environment conducive to further growth.¹¹

The social impact assessment carried out by IICA presents a comprehensive perspective that differs from scientific views on the planting of fruit-bearing saplings.

Impact of Fruit Bearing Sapling



The Social Impact Evaluation by IICA highlight various impacts and challenges associated with the initiative to distribute fruit tree saplings by NRL. Based on the responses provided, it can be inferred from the graph above that a majority (68.75%) of the beneficiaries perceive a positive impact on their lives upon receiving fruit-bearing saplings. This indicates that the initiative by NRL to distribute fruit tree saplings has been beneficial for the recipients, contributing positively to their livelihoods or quality of life in some way. However, it's important to address the concerns or challenges mentioned by the remaining 31.25% to ensure the effectiveness and sustainability of the initiative for all beneficiaries.

While 50% of respondents mentioned enhanced nutrition for children and family members as a significant impact, others cited benefits such as increased variety in diet and decreased

¹¹ <https://www.greening.in/why-tree-planting-matters>

dependency on market-purchased fruits. However, challenges such as poor soil quality leading to unsuccessful fruit-bearing tree growth were also reported by some respondents. Despite these challenges, efforts to improve soil quality and establish green covers around houses were noted, indicating resilience and adaptation to overcome obstacles. Furthermore, respondents expressed future aspirations, including expanding fruit tree plantations and starting fruit businesses if provided with high-quality tree seedlings. These aspirations suggest the potential for long-term positive impacts on livelihoods and community development if supported effectively.

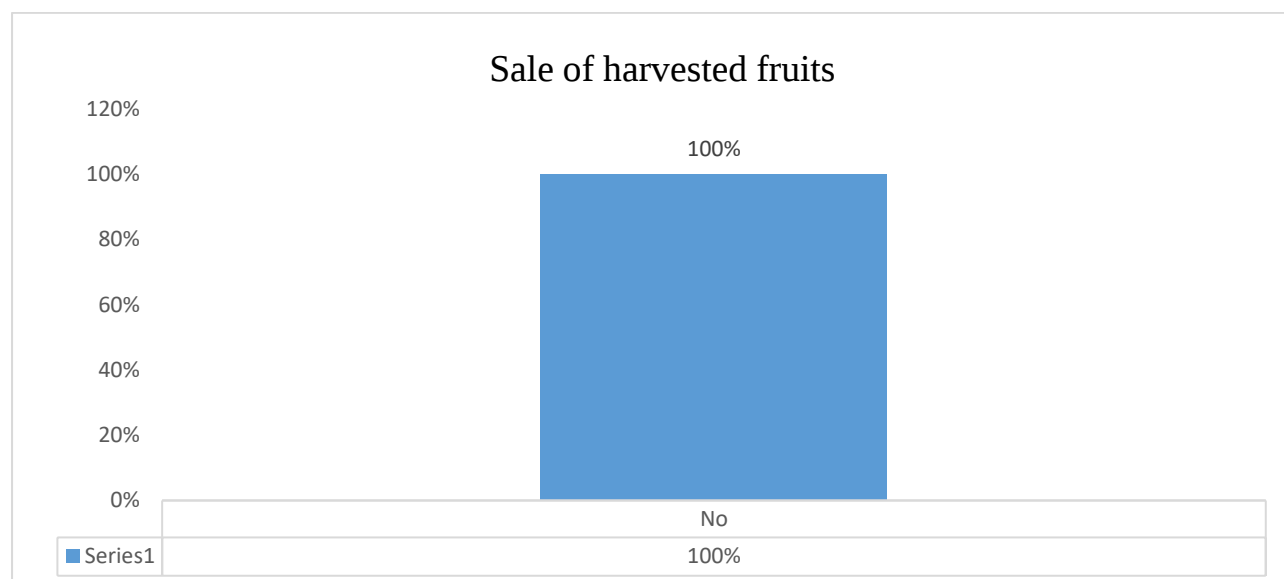


Sustainability of fruit bearing sapling

The sustainability of the fruit-bearing sapling initiative lies in its potential to provide long-term benefits to both the environment and the community. Firstly, by distributing fruit tree saplings, the initiative promotes environmental sustainability through the enhancement of green cover and biodiversity. As the saplings grow into mature trees, they contribute to carbon sequestration, improve air quality, and provide habitat for various species, thereby supporting ecosystem health.

Moreover, the initiative fosters economic sustainability by empowering community members to generate additional income through fruit cultivation. Fruit-bearing trees offer a renewable source of food and income, reducing dependency on external markets and enhancing food security for the community. Additionally, the initiative encourages entrepreneurship and diversification of livelihoods, as beneficiaries may choose to sell surplus fruits or value-added products, thereby stimulating local economies. According to the Social Impact Evaluation

Study by IICA, all of the respondents have not generated any kind of income from tgis initiative.



Furthermore, the sustainability of the initiative is reinforced by its social impact. By providing fruit tree saplings to beneficiaries, NRL not only addresses nutritional needs but also strengthens community resilience against environmental and economic challenges. The initiative promotes social cohesion and community engagement by involving residents in tree planting and care activities, fostering a sense of ownership and responsibility towards environmental stewardship.

Overall, the sustainability of the fruit-bearing sapling initiative is rooted in its multifaceted benefits, encompassing environmental conservation, economic empowerment, and social well-being. Through ongoing support, monitoring, and capacity-building efforts, NRL can ensure the long-term success and sustainability of this initiative, creating lasting positive impacts for both current and future generations.

Fruit Bearing Sapling & Sustainable Development Goals

The fruit-bearing sapling initiative aligns closely with several Sustainable Development Goals (SDGs), reflecting its commitment to addressing key global challenges while promoting sustainable development at the local level.

SDG 1: No Poverty

By providing fruit tree saplings to community members, the initiative contributes to poverty reduction by enabling households to generate additional income through fruit cultivation. This

empowers individuals to improve their economic situation and reduce vulnerability to food insecurity.

SDG 2: Zero Hunger

The distribution of fruit tree saplings promotes food security and nutrition by diversifying diets and increasing access to fresh fruits, especially in rural areas where access to nutritious foods may be limited.

SDG 3: Good Health and Well-being

Fruit consumption is associated with improved health outcomes due to their high nutritional content. By encouraging the cultivation and consumption of fruits, the initiative supports better health and well-being among community members.

SDG 7: Affordable and Clean Energy

As fruit-bearing trees grow, they contribute to carbon sequestration, mitigating climate change impacts. Additionally, the initiative promotes renewable energy sources through the use of solar-powered irrigation systems or other sustainable agricultural practices.

SDG 8: Decent Work and Economic Growth

By creating opportunities for fruit cultivation and potential income generation, the initiative fosters economic growth and promotes sustainable livelihoods, particularly in rural areas where employment opportunities may be limited.

SDG 11: Sustainable Cities and Communities

Planting fruit trees in urban and peri-urban areas enhances green spaces, improves air quality, and contributes to urban biodiversity, creating more sustainable and liveable communities.

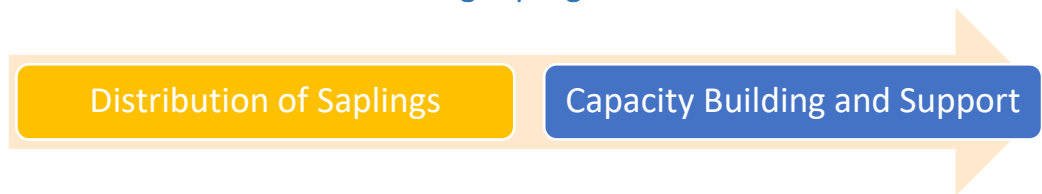
SDG 13: Climate Action

Fruit-bearing trees play a vital role in climate change mitigation by sequestering carbon dioxide and reducing greenhouse gas emissions. The initiative contributes to climate resilience and adaptation efforts by promoting agroforestry and sustainable land management practices.

SDG 15: Life on Land

By promoting tree planting and biodiversity conservation, the initiative contributes to the preservation and restoration of terrestrial ecosystems, enhancing ecosystem resilience and supporting biodiversity conservation efforts.

Value Chain Mechanism for Fruit Bearing Sapling



Theme	Explanation
Distribution of Saplings	Distribution of fruit-bearing saplings to the beneficiaries, ensuring accessibility and availability of the plants. It includes identifying suitable species based on local climate and soil conditions, procurement, and organized dissemination to the target communities. Proper distribution ensures equitable access and encourages participation in the initiative, laying the foundation for sustainable fruit cultivation.
Capacity Building and Support	Providing training and support to beneficiaries for effective plantation and maintenance of fruit-bearing saplings. It includes workshops, demonstrations, and educational programs on planting techniques, irrigation, pest management, and orchard maintenance. Additionally, ongoing assistance and advisory services empower community members to address challenges and optimize fruit production, fostering long-term sustainability.

Education

Construction & Renovation of classrooms

According to the Social Impact Evaluation study conducted by IICA, the construction and renovation of classrooms by NRL have significantly enhanced the educational environment for students, providing them with better facilities conducive to learning. The new building has not only facilitated the provision of quality education but has also created a positive and exciting atmosphere among students, motivating them to achieve academic excellence. Additionally, the improved infrastructure protects students and teachers from environmental elements like sun, wind, and rain, allowing for uninterrupted learning experiences. The project has garnered a favorable response from the youth union members, reflecting the widespread appreciation and recognition of NRL's efforts in enhancing educational infrastructure.



Impact on the attendance of students

Impact	Percentage
yes	75%
no	25%

Latitude: 26.538743
 Longitude: 93.878037
 Accuracy: 21.6 m
 Time: 23-12-2023 11:31
 Note: NRL survey, morangi dinanath high school

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In a school, the commencement of construction work has already generated positive responses from students, indicating a potential uplift in student satisfaction and attendance once the project is completed. Despite the construction not being finalized, students are expressing happiness and positive motivation due to the anticipation of improved facilities. This early reaction suggests that the ongoing construction work has instilled optimism among students, leading to expectations of enhanced learning environments and better academic outcomes in the future. Additionally, the mention of increased student attendance hints at the potential for a larger student body once the construction is complete, reflecting the positive impact the project is expected to have on overall school attendance rates.



Sustainability of Construction & Renovation of Classrooms

The renovation and construction of classrooms carry significant sustainability implications, both in the short and long term. In the short term, the immediate positive response from students underscores the social sustainability of the initiative, indicating an improvement in the quality of the learning environment. Enhanced student satisfaction and motivation contribute to a positive school culture, fostering a conducive atmosphere for academic growth and well-being. Moreover, increased attendance rates suggest a potential long-term impact on educational outcomes, as students are more likely to engage actively in learning activities. From an environmental perspective, sustainable construction practices, such as using eco-friendly

materials and energy-efficient designs, can minimize the ecological footprint of the project. By promoting resource efficiency and reducing environmental degradation, these practices align with broader sustainability goals aimed at preserving natural resources for future generations. Additionally, investing in durable infrastructure ensures the longevity of educational facilities, enhancing their resilience to environmental challenges and minimizing the need for frequent renovations in the future.

Effectiveness of Construction & Renovation of Classrooms

The renovation of classrooms has shown notable effectiveness in enhancing the learning environment and student satisfaction. Positive responses from students highlight the immediate impact of the initiative, with increased comfort and motivation already evident. Improved attendance rates suggest a positive shift in student engagement and commitment to their education. Additionally, sustainability measures such as eco-friendly materials underscore a long-term commitment to environmental stewardship. By fostering a conducive learning atmosphere and promoting resource efficiency, the initiative contributes to a sustainable educational infrastructure that benefits current and future generations.

Providing Desk Benches

The assessment of NRL's CSR initiative, providing desks and benches to educational institutions, reveals overwhelmingly positive impacts on the learning environment. With 99.2% of respondents reporting increased comfort and ease of sitting, along with improvements in study efficiency and productivity, the intervention has addressed various challenges faced with previous furniture, such as broken wooden benches and lack of writing space. Additionally, demands for more desk benches, improved bag storage, and modern facilities highlight the need for continued support and investment in educational infrastructure. Recommendations include ongoing monitoring, incorporation of feedback, and expansion of CSR initiatives to address broader educational needs. Overall, NRL's initiative has significantly enhanced the learning experience, emphasizing the importance of such interventions in promoting educational excellence and student well-being.

Sustainability of providing Desk Benches

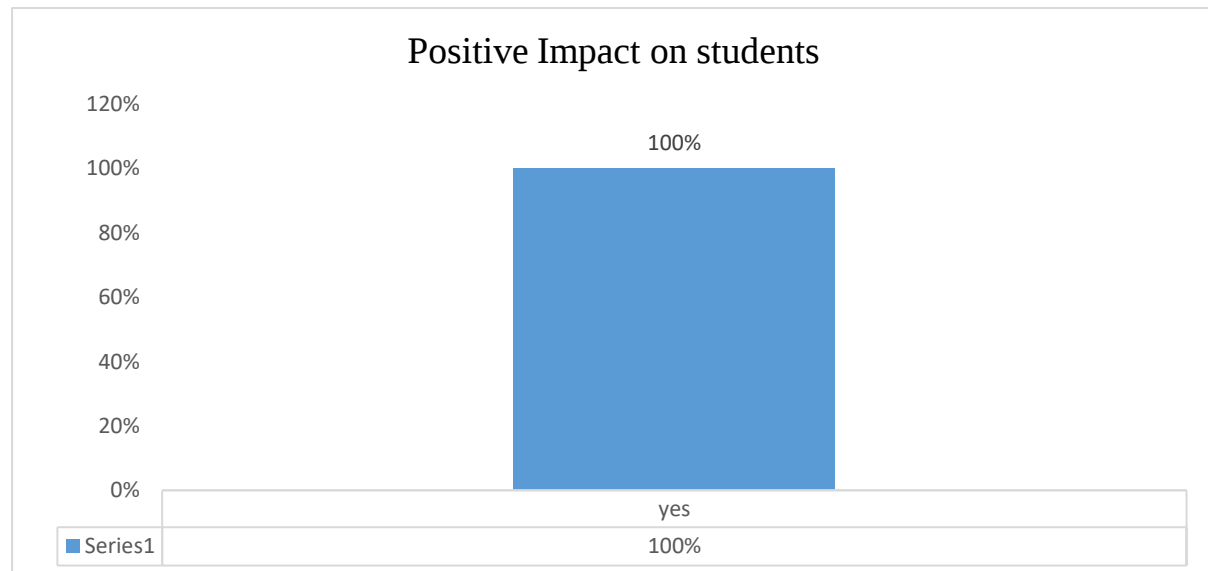
The provision of desk benches by NRL has demonstrated sustainability through its positive impact on student comfort, posture, and study efficiency. By addressing key challenges faced with previous furniture, such as durability issues and lack of space, the initiative has created a conducive learning environment that promotes student well-being and academic performance. Additionally, ongoing monitoring and feedback incorporation ensure that the benefits of the new furniture are sustained over time, contributing to a long-term improvement in educational facilities. Furthermore, by aligning with ergonomic design principles and incorporating student needs, the initiative fosters a culture of continuous improvement and adaptability, ensuring that future generations of students benefit from enhanced learning environments.

Effectiveness of Providing Desk Benches

The provision of desk benches by NRL has proven highly effective in improving student comfort, posture, and study efficiency. A vast majority of respondents reported significant improvements in comfort perception and study efficiency, highlighting the positive impact of the new furniture on student well-being and academic performance. Furthermore, the initiative successfully addressed various challenges faced with previous furniture, including durability issues, lack of space, and discomfort, leading to a more conducive learning environment. By incorporating feedback and ongoing monitoring, the initiative ensures sustained benefits over time, reflecting its effectiveness in enhancing educational facilities and supporting student success.

Providing Scholarship

Impact of Providing Scholarship



The scholarship provided by NRL for higher education has had a profoundly positive impact on students, offering them much-needed financial support to pursue their academic aspirations. By covering expenses such as college admission fees, purchasing books, and other necessary items, the scholarship has relieved students and their families from financial burdens, allowing them to focus on their studies without worries. This support has not only facilitated access to education but has also empowered students to fully engage in their academic journey, enhancing their learning experience and overall well-being. Additionally, the scholarship has enabled students to acquire essential educational resources, such as books and equipment, further enriching their learning and contributing to their academic success. Overall, the scholarship scheme has been instrumental in transforming the lives of students, providing them with opportunities to fulfill their educational goals and aspirations.



Sustainability of Providing Scholarship

The testimonials gathered by IICA, highlight the sustainability of the scholarship scheme provided by NRL in promoting continued education and fostering long-term academic aspirations among students. By offering financial support for education, the scheme has enabled students to pursue their studies with a sense of stability and confidence, ensuring their educational journey is not interrupted due to financial constraints. The incremental support provided at critical junctures, such as transitioning from class 8 to class 9 and from class 9 to class 10, has facilitated students' continuous enrolment in school and motivated them to aim for higher academic achievements. Moreover, the scheme's impact extends beyond immediate educational goals, as evidenced by students' aspirations to pursue higher education, such as engineering, medicine, and advanced degrees like master's and PhD programs. This demonstrates the scheme's effectiveness in fostering a culture of lifelong learning and enabling students to envision and strive for ambitious academic and career pathways, thus contributing to their long-term sustainability and socio-economic development.

Effectiveness of Providing Scholarship

By providing financial assistance for education, the scholarship scheme enables students to envision and work towards their future career goals, whether it's becoming a teacher, doctor, engineer, or professor. The initiative not only supports students' academic endeavors but also fosters a sense of purpose and ambition, motivating them to excel in their studies and achieve success in their chosen fields. Moreover, the scholarship serves as a catalyst for socio-economic mobility, allowing students to access higher education and embark on fulfilling careers that

contribute to their personal growth and the betterment of their communities. Overall, these testimonies highlight the tangible impact of NRL's scholarship program in empowering students to pursue their aspirations and realize their full potential.

Education & Sustainable Development Goals

Education plays a crucial role in achieving sustainable development goals (SDGs) by fostering knowledge, skills, and attitudes needed to promote sustainability. Several SDGs directly relate to education, including SDG 4, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Education contributes to achieving other SDGs by empowering individuals with the knowledge and awareness needed to address global challenges such as poverty, hunger, gender inequality, climate change, and environmental degradation. Additionally, education promotes critical thinking, innovation, and problem-solving skills, essential for implementing sustainable practices and fostering sustainable development in communities worldwide. By providing quality education and promoting lifelong learning, societies can build a more sustainable future by equipping individuals with the tools and mindset necessary to address current and future challenges effectively.

By providing desks and benches, educational institutions create a conducive learning environment that supports SDG 4 (Quality Education) by ensuring inclusive and equitable access to education for all. Renovating and constructing school buildings align with SDG 11 (Sustainable Cities and Communities) by improving infrastructure and creating safe, inclusive, and resilient learning spaces. Additionally, scholarships for needy students promote SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities) by addressing financial barriers to education and ensuring equal opportunities for all regardless of socioeconomic status. Overall, these initiatives empower individuals with education and resources, contributing to the broader agenda of sustainable development by fostering human capital, reducing inequalities, and promoting social and economic well-being.

Healthcare

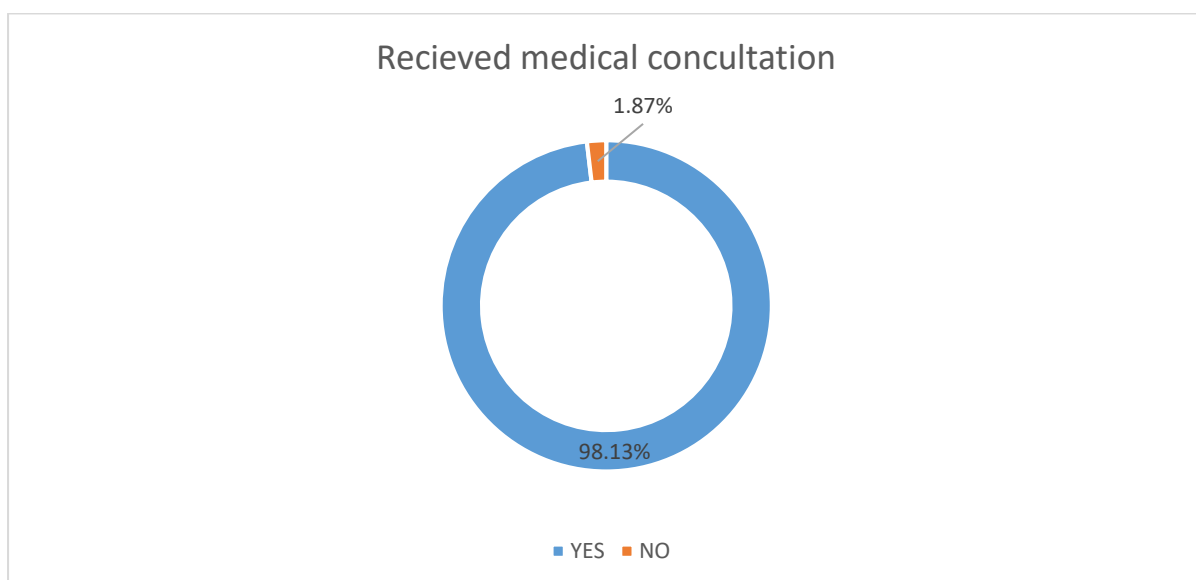
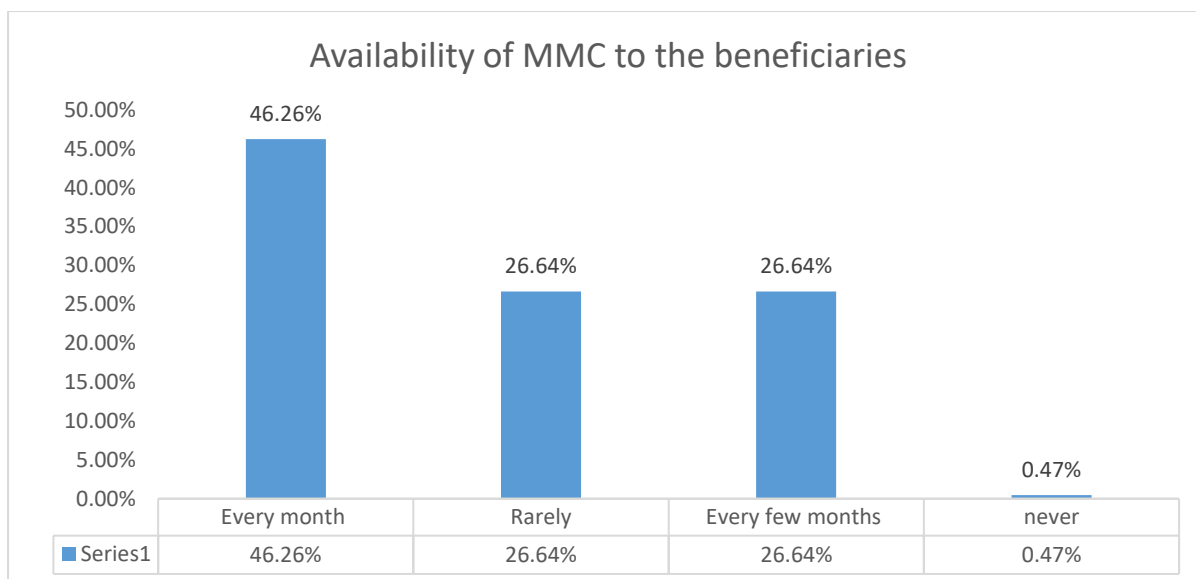
The Indian healthcare landscape is diverse, ranging from advanced medical facilities for the affluent urban population to underserved rural areas in need of basic health services. NRL's CSR initiative in healthcare aims to bridge this gap by implementing various programs like

mobile medical units, Niramoy, nursing schools, and Anganwadi programs. These initiatives seek to address the challenges of awareness, access, human resource crisis, affordability, and accountability in healthcare delivery. For instance, the mobile medical units provide essential healthcare services to remote areas, addressing the issue of access for underserved populations. Similarly, the Niramoy program focuses on raising awareness about health issues and promoting preventive healthcare measures, aligning with the need to enhance health awareness among the population. Additionally, the nursing schools and Anganwadi programs contribute to addressing the human resource crisis by training healthcare professionals and empowering community health workers. By targeting these key areas, NRL's CSR initiatives aim to improve the overall health outcomes and well-being of communities, thereby fulfilling the organization's commitment to social responsibility and contributing to the advancement of public health in India.¹²

Impact of Mobile Medical Camp (MMC)

The data from the medical mobile care initiative indicates a high level of accessibility to medical consultation among the beneficiaries, with 98.13% reporting that they have received medical consultation. This demonstrates the effectiveness of the program in reaching the target population and providing essential healthcare services. Furthermore, the majority of beneficiaries (89.32%) perceive the accessibility of medical care as either accessible or very accessible, indicating that the program has successfully addressed the issue of access to healthcare services in underserved areas. The frequency of medical consultations also appears to be satisfactory, with nearly half of the beneficiaries (46.26%) reporting monthly consultations. This indicates regular access to healthcare services, which is crucial for maintaining overall health and well-being. However, it is worth noting that a small percentage of beneficiaries (1.87%) reported not receiving medical consultation, suggesting potential areas for improvement in reaching all segments of the target population. Overall, the data reflects a positive impact of the medical mobile care initiative in providing accessible and regular healthcare services to the beneficiaries.

¹² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6166510/>
https://scholar.google.com/scholar_lookup?title=SRS+Statistical+Report,+2016.+Office+of+the+Registrar+General++Census+Commissioner&publication_year=2016&



Sustainability of Mobile Medical Camp

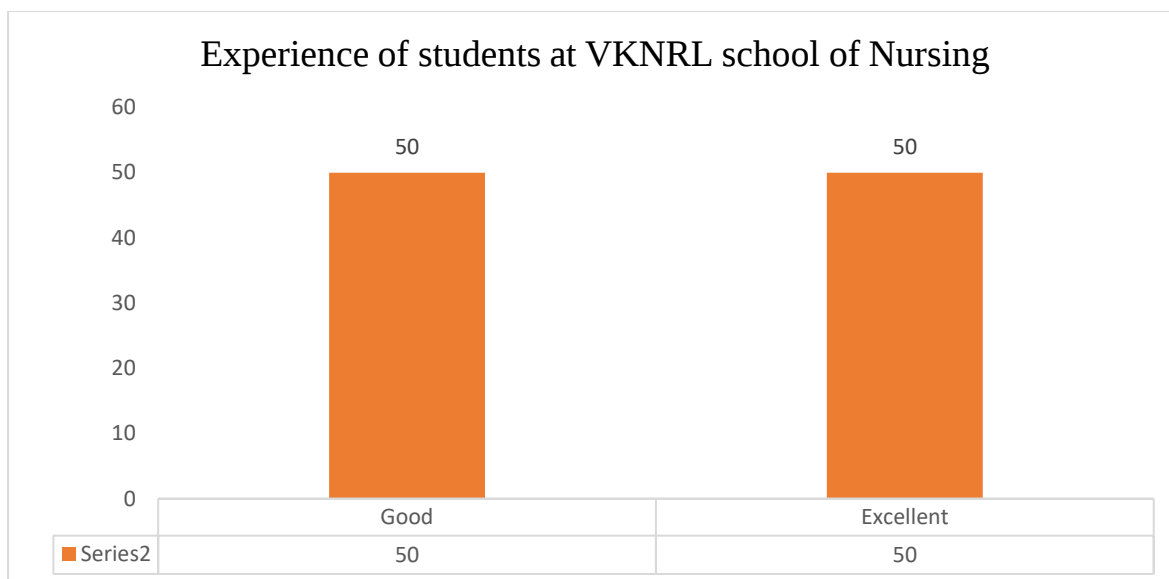
The sustainability of the Medical Mobile Camp (MMC) initiative by NRL hinges on several key factors. Continued funding from NRL or other stakeholders is essential to ensure the ongoing operation of the program. Building strong partnerships with local communities and stakeholders, as well as investing in the training and development of local healthcare professionals, strengthens the program's capacity and relevance. Robust monitoring and evaluation mechanisms help assess impact and identify areas for improvement, while integration with existing healthcare systems enhances efficiency and continuity of care. By prioritizing these factors, the MMC initiative can sustainably address the healthcare needs of underserved communities in the long term.

Effectiveness of Mobile Medical Camp

The mobile medical camps conducted by NRL have proven to be instrumental in improving the health and well-being of individuals and their families. Responses from participants show significant benefits, including the alleviation of joint pain through medication provided at the camps, substantial improvements in health conditions following medical counseling and treatment, and the mitigation of issues such as high blood pressure and gastric problems. Additionally, the camps have facilitated better access to healthcare services, resulting in convenience and enhanced physical health for attendees. Notably, individuals have reported a reduction in disease frequency and improved mobility, with some previously immobilized by back pain now able to walk comfortably. These observations collectively affirm the effectiveness and value of NRL's mobile medical initiatives in fostering healthier communities and addressing healthcare needs at the grassroots level.



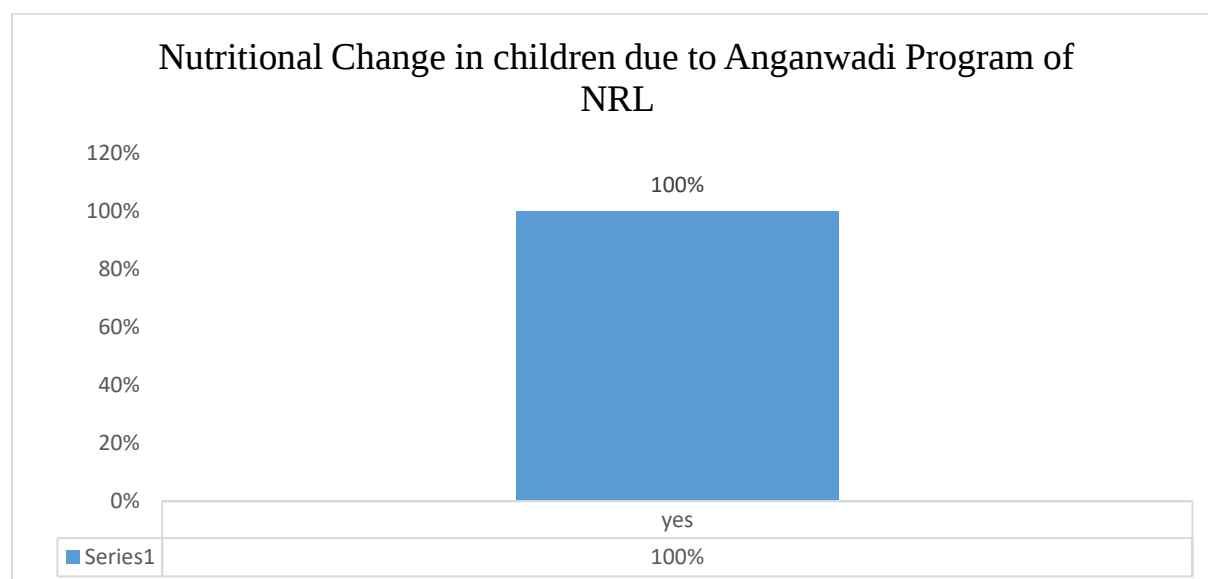
Impact of VKNRL School of Nursing



The impact of the programs offered by the VKNRL School of Nursing, facilitated by the NRL, is substantial and multifaceted. Firstly, the provision of comprehensive training materials, including textbooks, practical tools, online resources, and community visits, ensures that students receive a well-rounded education. Moreover, access to lab facilities for practical learning, including various specialized laboratories such as Science Lab, Nursing Foundation Lab, and Computer Lab, enriches their hands-on experience. Additionally, opportunities for internships in other hospitals further enhance their practical skills and exposure to real-world healthcare settings. As a result, students express high satisfaction with the practical learning experience, emphasizing the quality of education received. Furthermore, the impact extends beyond the classroom, as evidenced by the successful placement of about 90 students in jobs or career positions through the school's Placement Assistance Programme. This high placement rate underscores the effectiveness of the school in preparing students for their professional careers. Moreover, the holistic development of students is evident, as they not only excel academically but also socially and in sports. Overall, the impact of the programs provided by the VKNRL School of Nursing is profound, equipping students with the necessary skills, knowledge, and opportunities for a successful career in nursing.



Impact of Anganwadi Program



The establishment of Anganwadi Centers by NRL has had a significant impact on the nutritional status and overall health of children in the communities they serve. By setting up Anganwadi Centers in villages, access to healthcare services has become more convenient, as mentioned by beneficiaries who now find it easier to access medical treatment. The proximity of the Anganwadi Centers to their homes has reduced the time and effort required to seek healthcare, leading to improved healthcare utilization. Additionally, the presence of experts and healthcare professionals at these centers facilitates early detection and prevention of diseases, contributing to better health outcomes for children. Furthermore, the Anganwadi

programs not only focus on healthcare but also provide education, sports, and nutrition facilities, which contribute to the overall well-being and development of children and families in the community. The impact of NRL's Anganwadi program is evident in the improved access to healthcare, early disease detection, and comprehensive support for the well-being of children and families in the served areas.



Healthcare & Sustainable Development Goals

NRL's initiatives, including mobile medical camps, Niramoy, VK NRL School of Nursing, and the Anganwadi renovation program, align closely with several Sustainable Development Goals (SDGs) related to healthcare and sustainable development.

Firstly, the mobile medical camps contribute to SDG 3: Good Health and Well-being, by providing essential healthcare services to underserved communities, especially in remote areas where access to healthcare facilities is limited. These camps help address issues such as maternal and child health, infectious diseases, and non-communicable diseases, thereby working towards achieving universal health coverage and reducing health inequalities (SDG 3.8). Secondly, Niramoy, with its focus on improving ambulance services and emergency medical care, also supports SDG 3 by ensuring timely access to healthcare in emergencies, which can significantly reduce morbidity and mortality rates. By enhancing emergency medical services, Niramoy contributes to SDG 3.1, which aims to reduce the global maternal mortality ratio and end preventable deaths of newborns and children under five years of age.

Thirdly, the VK NRL School of Nursing plays a vital role in addressing SDG 4: Quality Education, by providing quality education and training to aspiring healthcare professionals. By producing skilled nurses and healthcare workers, the school contributes to building a competent healthcare workforce, which is essential for achieving various health-related SDGs, including those related to maternal and child health (SDG 3.1) and infectious diseases (SDG 3.3).

Lastly, the Anganwadi renovation program supports several SDGs, including SDG 2: Zero Hunger, and SDG 3, by improving access to nutrition and healthcare services for women and children in communities. By renovating Anganwadi centers and enhancing their facilities, NRL contributes to improving maternal and child health outcomes, reducing malnutrition, and promoting overall well-being (SDG 2.2 and SDG 3.2).

In conclusion, NRL's initiatives, such as mobile medical camps, Niramoy, VK NRL School of Nursing, and the Anganwadi renovation program, are closely aligned with the Sustainable Development Goals related to healthcare, education, and sustainable development. By addressing key health challenges and promoting access to quality healthcare services, these initiatives play a crucial role in advancing the global agenda for health and well-being.

Sports

The NRL Football Academy emerges as a beacon of opportunity and development for young football enthusiasts in a geographically deprived region. The pathways through which players became acquainted with the academy reveal a multifaceted approach to community engagement. Familial connections, peer influence, and direct outreach by academy staff all contribute to the diverse intake of talent. This varied introduction process showcases the academy's broad reach and inclusivity, facilitating access for many young players who might otherwise remain unnoticed. A significant motivator for players is the provision of free coaching, which alleviates financial burdens and democratizes access to quality sports education. The players' motivations are deeply rooted in their aspirations to emulate football icons like Messi and Ronaldo, demonstrating the academy's role in nurturing not just athletic skills but also dreams and ambitions.



The overwhelmingly positive feedback from players regarding their experience at the academy highlights the supportive environment fostered by NRL. With 26 players unanimously praising the cleanliness and coaching quality, it is evident that the academy maintains high standards in both physical infrastructure and training methodology. The provision of three NRL jerseys per year instills a sense of pride and belonging among the players, further cementing their loyalty and dedication to the academy. The role of well-qualified coaches, some with extensive experience in coaching youth teams at various levels, is pivotal in the academy's success. These

coaches bring expertise and a track record of developing young talent, ensuring that players receive top-notch guidance.



However, challenges persist, particularly in terms of exposure to competitive opportunities. The geographical isolation of the region limits the players' participation in state, national, and international competitions, which are crucial for their development and visibility. The coach's suggestion to enhance exposure through increased participation in such competitions is a vital recommendation. This would not only improve the players' skills through real-world experience but also provide them with the necessary platform to showcase their talent on larger stages. Moreover, the internal monitoring by NRL, along with surprise inspections, highlights the academy's commitment to maintaining the integrity and effectiveness of its programs. The involvement of the Bhaichung Bhutia Football Schools (BBFS) as the implementing partner adds a layer of professional oversight, ensuring that the academy's operations align with best practices in sports training and development.

The findings from Focus Group Discussions (FGDs) with female players at the NRL Football Academy reveal a positive and empowering environment. Initially, these girls started playing football as a hobby but now enjoy it immensely, with all expressing happiness in their participation. Their career aspirations are diverse, ranging from becoming police officers and commandos to professional footballers. However, at present, their primary joy comes from playing football, and they report facing no challenges in their engagement with the sport.



This positive experience among female players underscores the academy's role in promoting women's empowerment. By providing a supportive and inclusive environment, the NRL Football Academy empowers young girls to pursue their interests and aspirations, breaking traditional gender norms in sports. The academy's efforts contribute significantly to SDG 5 (Gender Equality) by fostering an environment where young women can thrive and pursue their dreams.





The findings from the Key Informant Interviews (KIIs) with the academy's management, including the manager and the Head of Youth Development, provide deeper insights into the operational ethos and challenges faced by the academy. The academy's 3-star accreditation from AIFF and the merit-based selection process highlight its adherence to high standards and fairness. The absence of specific social or economic criteria for selection ensures inclusivity, offering opportunities based on talent and potential. The comprehensive support provided to players, including free training, scholarships, nutritious snacks, and regular meals, reflects a holistic approach to player development that goes beyond just football skills.



Technical challenges, primarily due to the region's geographic constraints, necessitate additional budgetary allocations for the academy. This is crucial to meet the growing demands for advanced technical training and infrastructure. The management's call for a higher budget and more personnel to enhance the academy's functionality is a pragmatic approach to scaling up operations and meeting the evolving needs of the players. Furthermore, the suggestion to replicate the successful model of the NRL football academy in other regions can serve as a blueprint for developing similar initiatives, thereby expanding the impact of such programs.



The NRL Football Academy's alignment with several United Nations Sustainable Development Goals (SDGs) is commendable. It contributes to SDG 3 (Good Health and Well-being) by promoting physical fitness and healthy living among youth. The academy's focus on skill development and education aligns with SDG 4 (Quality Education), while its inclusive selection process supports SDG 10 (Reduced Inequalities). Collaborations with BBFS and other stakeholders exemplify SDG 17 (Partnerships for the Goals), showcasing the power of partnerships in driving social change through sports. In conclusion, the NRL Football Academy stands as a model institution, demonstrating how sports can be leveraged to achieve broader social and developmental objectives. The positive impact on players' lives, coupled with the academy's strategic alignment with SDGs, highlights its role as a catalyst for nurturing talent and fostering holistic development. Addressing the challenges of exposure and resource allocation will further enhance the academy's effectiveness, enabling it to continue transforming the lives of young footballers in the region.

In conclusion, the NRL Football Academy stands as a model institution, demonstrating how sports can be leveraged to achieve broader social and developmental objectives. The positive impact on players' lives, coupled with the academy's strategic alignment with SDGs, highlights its role as a catalyst for nurturing talent and fostering holistic development. Addressing the challenges of exposure and resource allocation will further enhance the academy's effectiveness, enabling it to continue transforming the lives of young footballers in the region. Despite geographic limitations, the academy acts as a beacon of hope, providing opportunities and fostering aspirations for both male and female players.

Skill Development

The impact evaluation study conducted by IICA sheds light on the challenges facing skill development at Golaghat ITI College. Infrastructure deficiencies loom large, with the absence of essential facilities such as a hostel, playground, and bike/cycle stand, significantly affecting student convenience and safety. This shortfall not only hampers their overall well-being but also undermines their academic performance and college experience. Additionally, the absence of direct placement options poses a formidable barrier to students' post-graduation career prospects, necessitating urgent establishment of a robust placement and career guidance system. Anticipating future growth, the institution must address staffing inadequacies to maintain educational standards and ensure student satisfaction. Proactive measures are imperative to overcome these challenges and foster an environment conducive to holistic student development.

Moreover, the impact evaluation study highlights the urgent need for strategic interventions to bolster skill development at Golaghat ITI College. Efforts must be directed towards addressing infrastructure deficiencies, including the provision of essential facilities like a hostel and playground, to enhance student convenience and safety. Simultaneously, establishing direct placement options and a comprehensive career guidance system is crucial to augment students' employability and career prospects post-graduation. Anticipating future growth, the institution must prioritize staffing requirements to ensure adequate support for students and maintain educational standards. By addressing these critical areas, Golaghat ITI College can realize its potential as a hub for skill development, fostering a conducive environment for holistic student growth and success.

Skill Development & SDG

The impact evaluation study conducted by IICA on Golaghat ITI College underscores the pressing need for addressing infrastructure deficiencies and enhancing skill development, aligning with several Sustainable Development Goals (SDGs). Firstly, the absence of essential facilities such as hostels, playgrounds, and bike/cycle stands negatively impacts student convenience and safety, directly relating to SDG 4 (Quality Education). Addressing these deficiencies would create a conducive learning environment, ensuring inclusive and equitable quality education (SDG 4.1). Secondly, the lack of direct placement options hampers students' post-graduation career prospects, highlighting the need to promote decent work and economic growth (SDG 8). Establishing a robust placement and career guidance system would facilitate

access to employment opportunities and promote sustainable livelihoods (SDG 8.5). Additionally, prioritizing staffing requirements to maintain educational standards aligns with SDG 4, ensuring the provision of qualified teachers and support staff to foster a conducive learning environment (SDG 4.7). By addressing these challenges, Golaghat ITI College can contribute to advancing the SDGs by promoting quality education, decent work, and sustainable economic growth.

Aspirational District Darrang

The findings from the key informant interview with DC Mr. Bakhtar Ali regarding the impact of NRL's funds on the aspirational district Darrang reveal significant improvements in infrastructure across various sectors. The allocation of funds totaling 7 crore rupees between 2019 and 2021 has notably enhanced infrastructure at the Magoldoi Civil Hospital, including improvements in ambulance services, the animal dormitory, Prasute Mangal Kendra, installation of solar panels, and sub-centre development. Additionally, progress has been made in constructing toilets in 104 schools, with 90% deemed effective, and 66 schools are currently undergoing additional building construction. However, electrification efforts in 402 schools remain partially completed, with only 200-250 schools electrified. While 29 Anganwadi centres are being developed, some are still under construction due to a lack of funds, specifically 1 crore 72 lakh rupees withheld by NRL. Despite challenges, improvements in existing toilets have been noted, and the dormitory at Prasuti Mangal Kendra offers nutritious food and free health check-ups for pregnant women in rural areas, enhancing awareness and healthcare access. Analyzing these findings through the lens of the Sustainable Development Goals (SDGs), improvements align with several goals, including SDG 3 (Good Health and Well-being) through enhanced healthcare facilities, SDG 4 (Quality Education) with school infrastructure development, and SDG 6 (Clean Water and Sanitation) through toilet construction initiatives. Efforts also contribute to SDG 7 (Affordable and Clean Energy) with solar panel installations, and SDG 5 (Gender Equality) by promoting maternal health and well-being.

Recommendations

The Social Impact Evaluation conducted by the Indian Institute of Corporate Affairs (IICA) offers valuable insights into Numaligarh Refinery Limited's (NRL) CSR initiatives. To further enhance the effectiveness and sustainability of these efforts, the following recommendations are proposed:

Enhancing Monitoring and Evaluation Mechanisms:

NRL should strengthen its monitoring and evaluation mechanisms to track project progress and impact more effectively. Implementing real-time data tracking systems and conducting regular field visits will provide timely feedback for course corrections.

Capacity Building and Training:

Invest in capacity building and training programs for project beneficiaries, local communities, and NRL staff. Enhanced skills and knowledge will contribute to the success and sustainability of CSR initiatives.

Partnerships and Collaboration:

Foster partnerships with local governments, NGOs, and academic institutions to leverage resources and networks. Collaborative efforts will enhance project reach, effectiveness, and sustainability.

Addressing Infrastructure Deficiencies:

Prioritize addressing infrastructure deficiencies identified in various thematic areas. Investments in essential facilities like hostels and medical equipment will improve access to services and beneficiary well-being.

Promoting Gender Equality and Inclusion:

Integrate gender-responsive approaches and promote inclusivity across all initiatives. Ensure equal opportunities for women and marginalized groups, and actively engage them in decision-making processes.

Fostering Innovation and Adaptation:

Encourage innovation and adaptability in project design and implementation to respond effectively to changing contexts. Embrace new technologies and community-driven solutions to maximize impact.

Community Empowerment and Ownership:

Empower local communities to take ownership of projects through participatory approaches and capacity building. Engage stakeholders at all stages to foster a sense of ownership and responsibility.

Long-term Sustainability Planning:

Develop long-term sustainability plans for projects, incorporating strategies for post-project sustainability and community capacity building.

Stakeholder Engagement and Communication:

Strengthen communication and engagement with stakeholders to build trust and enhance project visibility. Transparent communication channels will foster accountability and promote project success.

Continuous Learning and Improvement:

Foster a culture of continuous learning and improvement within NRL's CSR framework. Regularly review project outcomes and incorporate lessons learned into future planning and implementation.

By implementing these recommendations, NRL can strengthen its CSR initiatives, maximize impact, and contribute to sustainable development in the communities it serves. Through strategic investments, partnerships, and innovation, NRL can continue to be a catalyst for positive change and empowerment.

Recommendation for Livelihood Theme

In the pursuit of enhancing livelihoods through sustainable agriculture initiatives, NRL has demonstrated commendable efforts, particularly evident in the successful implementation of projects such as Rubber Plantation, the SwaNirbha project, fruit tree sapling distribution and Custom Hiring Centres. To further bolster livelihood opportunities and ensure the long-term well-being of beneficiaries, it is imperative to consolidate and expand upon these initiatives while addressing identified challenges. Here's a comprehensive recommendation covering all pertinent points:

Continuous Monitoring and Evaluation:

NRL should establish a rigorous monitoring and evaluation framework to systematically track the progress and impact of livelihood-focused projects. This will enable timely identification of successes and challenges, facilitating adaptive management and resource optimization.

Diversification and Risk Management:

Encourage beneficiaries to diversify income-generating activities to mitigate risks associated with market fluctuations and unforeseen challenges. This could involve expanding beyond traditional agriculture to include ventures like agroforestry, eco-tourism, or value-added processing, thereby enhancing resilience and fostering economic stability.

Capacity Building and Skill Enhancement:

Invest in comprehensive capacity building programs tailored to the specific needs of beneficiaries. This should include technical training, entrepreneurial skills development, and access to relevant resources, empowering individuals to succeed in their chosen livelihood pursuits.

Community Engagement and Collaboration:

Foster a culture of collaboration and knowledge sharing within the community, leveraging peer learning and mentorship opportunities. NRL should facilitate platforms for beneficiaries to exchange experiences, insights, and best practices, promoting collective learning and growth.

Sustainable Resource Management:

Emphasize sustainable practices in resource management to ensure the long-term viability of livelihood initiatives. This includes promoting soil conservation techniques, efficient water

usage, and responsible land utilization, minimizing environmental impact while maximizing productivity.

Social Support and Well-being:

Prioritize the holistic well-being of beneficiaries by incorporating initiatives aimed at promoting mental, emotional, and physical health. NRL should provide access to social support services, counseling, and recreational activities, fostering resilient and empowered communities.

Market Linkages and Income Generation:

Facilitate access to markets and value chains for beneficiaries to commercialize their products effectively. This involves providing training on market analysis, post-harvest handling, value addition, and marketing strategies, enabling participants to capitalize on economic opportunities and maximize returns.

Adaptive Management and Flexibility:

Remain adaptable and flexible in project implementation, responding proactively to evolving needs and feedback from beneficiaries. Regularly solicit input from stakeholders to ensure projects are aligned with community priorities and aspirations, fostering ownership and sustainability.

Custom Hiring Centers (CHCs)

The testimonials gathered by IICA affirm the transformative impact of Custom Hiring Centers (CHCs) on agricultural practices and community livelihoods, highlighting increased productivity, efficiency, and economic empowerment among beneficiaries. By providing access to mechanized farming equipment, CHCs have not only reduced the time and labor associated with traditional methods but also led to significant improvements in crop yields and profitability. Moreover, the sustainability of CHCs is underscored by their promotion of resource efficiency, economic viability, environmental conservation, community resilience, and inclusive development. To ensure the continued success of CHCs, it is imperative for NRL to focus on enhancing access and outreach, diversifying services, promoting sustainable practices, investing in capacity building, fostering partnerships, implementing robust monitoring and evaluation, and developing sustainable financing models. Through these concerted efforts, CHCs can continue to serve as invaluable catalysts for inclusive and

sustainable agricultural development, empowering farming communities and fostering resilience in the face of evolving challenges.

Education

IICA recommend NRL to continue its efforts in enhancing educational infrastructure and providing scholarships for higher education, while also prioritizing ongoing monitoring, feedback incorporation, and expansion of CSR initiatives to address broader educational needs. By sustaining investments in sustainable infrastructure development, expanding scholarship opportunities, and fostering partnerships with stakeholders, NRL can further promote educational excellence, student well-being, and equitable access to quality education. This holistic approach ensures a long-term commitment to fostering transformative educational experiences, empowering students to reach their full potential and contribute positively to society.

Conducting Need Assessment Survey

To establish a strategic Corporate Social Responsibility (CSR) framework that effectively addresses community needs and maximizes impact, IICA recommend conducting a comprehensive needs assessment. This assessment should involve engaging with stakeholders, including local communities, NGOs, government agencies, and employees, to identify key social, environmental, and economic challenges faced by target communities. By understanding the specific needs and priorities of the communities served, NRL can develop tailored CSR initiatives that address root causes, leverage existing resources, and align with organizational values and capabilities. Additionally, ongoing monitoring and evaluation mechanisms should be integrated to track progress, solicit feedback, and adapt strategies as needed, ensuring the sustainability and effectiveness of CSR interventions over time. Through a strategic and needs-based approach, NRL can enhance its positive impact, foster meaningful partnerships, and contribute to holistic community development.

Conducting Social Return on Investment

For NRL's CSR initiatives, IICA recommend conducting a thorough Social Return on Investment (SROI) analysis to accurately assess the social, environmental, and economic value generated by these interventions. By quantifying the social impacts alongside financial investments, NRL can gain deeper insights into the effectiveness and efficiency of its CSR programs, identifying areas of success and areas for improvement. This comprehensive

evaluation will enable NRL to demonstrate the tangible benefits and long-term value created for stakeholders, empowering informed decision-making, resource allocation, and strategic planning. Through SROI analysis, NRL can enhance accountability, transparency, and stakeholder engagement, ultimately maximizing the positive social impact of its CSR initiatives.