



PROVIDING 1.5 TESLA MRI MACHINE TO DISTRICT HOSPITAL CHAMBA

Location: Chamba, Himachal Pradesh

PROJECT SUMMARY

CSR PROJECT NAME	Providing 1.5 Tesla MRI Machine to District Hospital Chamba
EXECUTED BY	Deputy Commissioner, Chamba
SUPPORTED BY	NHPC Limited
TOTAL EXPENDITURE	₹ 7.85 crores
DURATION	JANUARY 2020 - APRIL 2022
LOCATION	Chamba, Himachal Pradesh
BENEFICIARIES	Over 5,00,000



ACKNOWLEDGMENTS

IIT Jammu extends its heartfelt gratitude to NHPC Limited for entrusting it with Impact Assessment of its CSR activity related to supporting a 1.5 Tesla MRI Scan Machine which contributed to healthcare infrastructure of District Hospital Chamba. Our thanks are also due to all the individuals and organizations, whose tireless efforts and unwavering support have been fundamental to the successful completion of this Impact Assessment.

We offer our profound appreciation to the District Administration, Chamba for their pivotal role in helping and coordinating this extensive study. Their leadership and expertise were crucial in ensuring the effective execution of the assessment activities, which enabled the collection of critical data and insights that shaped the findings of this report.

Our thanks also extend to the authorities and health staff of Pandit Jawahar Lal Nehru Government Medical College and Hospital, Chamba whose collaboration and support were instrumental in facilitating the smooth progress of our study related to the installation of 1.5 Tesla MRI machine at District Hospital Chamba and its effect on the people of District Chamba.

We would also like to express our gratitude to the Project Staff of NHPC Chamera-II Power Station, who facilitated the stakeholder discussions helping us to complete the assessment in time.

Moreover, we recognize the diligent work of the assessment team members, whose commitment and professionalism in conducting thorough research and comprehensive analysis have resulted in a detailed report that highlights the essential role of this advanced medical equipment.



PREFACE

This is an Impact Assessment Report of Corporate Social Responsibility Activity “Providing 1.5 Tesla MRI Machine to District Hospital, Chamba, Himachal Pradesh” supported by NHPC Limited and implemented in collaboration with Office of the Deputy Commissioner, Chamba, Himachal Pradesh. The project aims to provide quality healthcare services to the residents of District Chamba Himachal Pradesh

This report briefly covers NHPC, its CSR policy, and its objectives. Further, the extent to which the aims and objectives of this CSR project have been met, is detailed by giving information about the beneficiaries impacted.

The assessment is carried out at District Hospital, Chamba, Himachal Pradesh. The impact assessment results are derived from quantitative and qualitative data collected and analyzed by experts along with case studies of beneficiaries.

The conclusions are specific to this intervention and encompass learnings, which may be embraced in the future endeavors.

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Table of Contents

LIST OF FIGURES	i
LIST OF TABLES	ii
LIST OF ABBREVIATIONS	iii
EXECUTIVE SUMMARY	iv
1. INTRODUCTION	1
1.1 ABOUT IIT JAMMU	1
1.2 ABOUT NHPC LIMITED	2
1.3 ABOUT CORPORATE SOCIAL RESPONSIBILITY	4
1.4 ABOUT NHPC CSR POLICY	5
1.5 ABOUT IMPACT ASSESSMENT	7
1.6 PROJECT BACKGROUND	8
2. APPROACH & METHODOLOGY	9
2.1 MEASURE OF SUSTAINABILITY	11
3. CSR ACTIVITY DETAILS	11
4. IMPACT ASSESSMENT	13
5. STAKEHOLDER FEEDBACK	16
6. OECD DAC FRAMEWORK MEASURE	19
7. ALIGNMENT WITH SDGs	20
8. RECOMMENDATIONS	21

List of Figures

Fig. 1	OECD DAC Framework	11
Fig. 2	Avg/Scan MRI Scan Cost Savings	13
Fig. 3	Geographical Impact Metrics	14
Fig. 4	Qualitative Impact Metrics	15
Fig. 5	OECD DAC Measure	19

List of Abbreviations

CSR	Corporate Social Responsibility
DBT	Department of Biotechnology
DSIR	Department of Scientific & Industrial Research
DST	Department of Science & Technology
IIT	Indian Institute of Technology
IRDP	Integrated Rural Development Program
MGNF	Mahatama Gandhi National Fellowship
MRI	Magnetic Resonance Imaging
NGO	Non-Governmental Organisation
NIRF	National Institutional Ranking Framework
OECD DAC	The Organisation for Economic Co-operation and Development's Development Assistance Committee
SDG	Sustainable Development Goals

EXECUTIVE SUMMARY

A major Corporate Social Responsibility Project of NHPC Limited aimed at providing 1.5 Tesla MRI Machine to District Hospital Chamba, Himachal Pradesh. The initiative was undertaken during the period January 2020 to April 2022 at a cost of INR 785.16 Lakhs in collaboration with District Administration Chamba, Himachal Pradesh. The initiative aimed at equipping the Pandit Jawahar Lal Nehru Government Medical College and Hospital in District Chamba, Himachal Pradesh with a 1.5 Tesla MRI Machine. This initiative is a part of NHPC's dedication to improving healthcare infrastructure in the regions around its operations. The initiative benefits a population of over 5,50,000 in the area.

The background of the initiative was the fact that people residing in Chamba district were facing difficulties due to lack of basic medical equipment such as a MRI Machine at the local hospital. They had to visit far flung areas at significant costs in time and money to avail the said facilities. In this regard, Deputy Commissioner Chamba requested NHPC Limited through NHPC Chamera-II Power Station to consider providing a MRI machine at the local hospital as part of its CSR activities, that eventually culminated in this initiative.

The impact of this CSR initiative was assessed through a comprehensive methodology using mixed methods approach that included surveys, interviews, and stakeholder meetings. The assessment was done under OECD DAC framework and included both quantitative and qualitative methodologies.

The initiative enhances the radiological diagnostic capabilities in Chamba, decreasing the necessity for patients to travel extensive distances for availing vital medical imaging services. The installation of the MRI machine has considerably improved local healthcare services, offering high-quality radiological diagnostics on-site. This in turn provides better health outcomes and significant cost reductions for the community.

The social return on investment indicators highlight that the availability of MRI machine has cut down travel times and expenses for patients. Besides, it has boosted the local economy by increasing patient traffic to the area, benefiting local businesses like medical stores, hotels, and restaurants. Additionally, it has created employment opportunities for medical and support staff at the hospital.

As a part of Aggregate Community Satisfaction indicators, the feedback from healthcare providers, patients, and community members has been overwhelmingly positive, showing the impact of the MRI machine's role in enhancing the quality and accessibility of healthcare services in the district. High level of satisfaction was also noticed on indicators relating to machine's optimal performance and reliability. The recommendations include further improvement in healthcare services in Chamba. The stakeholders recommend the addition of additional radiology and cardiac care equipment at the local hospital. Addressing these needs in future will continue to enhance healthcare infrastructure and meet the evolving healthcare needs of the community.

In terms of alignment with the United Nations Sustainable Development Goals (SDGs), the initiative contributes to Good Health and Well-being (SDG 3) by enhancing healthcare services and improving public health outcomes. It also promotes Decent Work and Economic Growth (SDG 8) through job creation and economic stimulation in the local economy. Additionally, the initiative supports Industry, Innovation, and Infrastructure (SDG 9) through the integration of advanced technologies in healthcare. Moreover, the successful collaboration among NHPC Ltd., government bodies, and the local community exemplifies Partnerships for the Goals (SDG 17), highlighting the project's role in fostering effective partnerships to advance sustainable development. The project serves as a model for effective CSR implementation, showing how strategic investments in healthcare technology can bring substantial benefits for community welfare and economic development.

1. INTRODUCTION

1.1 ABOUT IIT JAMMU



IIT Jammu, was established in 2016 and is located in Jammu and Kashmir, India. It is recognized as an Institute of National Importance and offers a variety of programmes at the undergraduate, postgraduate, and doctoral levels. IIT Jammu provides Bachelor of Technology (B.Tech) degrees in several engineering disciplines such as Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, and Mechanical Engineering. It also offers Master of Technology (M.Tech) and Doctor of Philosophy (Ph.D) programmes across various specializations.

IIT Jammu was ranked 67th in the engineering category by the NIRF in 2023. This places it among the top performers of the third generation IITs. IIT Jammu has undertaken various collaborative projects with other agencies to enhance research and development in key technological areas. IIT Jammu is actively involved in collaborations with national agencies like the DST, the DBT, and the DSIR, and with the Government of the UT of Jammu and Kashmir. These partnerships focus on advancing research and development across multiple disciplines and leveraging opportunities for funding and expertise from different sectors.

IIT Jammu is engaged in significant collaborative efforts with industrial partners. These collaborations aim to align academic research with industry needs, facilitating practical applications and innovations that can be commercialized for greater good. Through these partnerships, IIT Jammu aims to enhance its research capabilities and provide its students and faculty with direct exposure to industry-specific challenges and solutions.

1.2 ABOUT NHPC LIMITED



NHPC Limited is the largest hydropower development organization in India, with capabilities to undertake all the activities from conceptualization to commissioning of hydro projects. NHPC has also diversified in the field of Solar & Wind energy development etc.

NHPC Ltd. (Formerly known as National Hydroelectric Power Corporation Ltd.) was incorporated in 1975 under the Companies Act, 1956. The company is mandated to plan, promote and organize an integrated and efficient development of power in all its aspects through Conventional and Non-Conventional Sources in India and abroad. NHPC is a listed company on NSE and BSE after successfully concluding its IPO in 2009.

NHPC's total installed capacity as on 31 March, 2024 is 7144.20 MW including 1593 MW in Joint Venture, comprising 6971.20 MW from 22 Hydro Power Stations, 123 MW from three Solar Power Project and 50 MW from a Wind Power Project. NHPC's hydro power share of 6971.20 MW comes to about 14.85% of the country's total installed Hydro Power capacity of 46928.17 MW.

NHPC including its JVs/ Subsidiaries is presently engaged in the construction of 15 projects aggregating to a total installed capacity of 10442.70 MW.

In addition, twelve projects aggregating to a total installed capacity of 4707 MW are Under Clearance Stage.

Other initiative by NHPC in Renewable Energy :-

> Under MNRE scheme, NHPC has been nominated as Renewable Energy Implementing Agency (REIA)/Intermediary Procurer. Under this 700 MW Solar Project (320MW in Bikaner and 380 MW in Jaisalmer) has been developed and 5360 MW are under development by different agencies.

>NHPC has installed 4.08 MW Roof top Solar (RTS) capacity across 25 locations. Further, addition on Roof top capacity at NHPC locations as available and identified from time to time is also being carried out through respective Projects/Units.

>NHPC has also taken initiatives for development of Green Hydrogen Technology, wherein one 25 KW capacity Pilot Green Hydrogen Project at Leh and 2 Pilot green hydrogen-based e-mobility projects (one at Kargil) and one at Chamba, Himachal Pradesh) are under implementation. These projects are anticipated to be commissioned by F.Y 2024-25.

NHPC's Vision

- To be a global leading organization for sustainable development of clean power through competent, responsible and innovative values.

NHPC's Mission

- To achieve excellence in development of clean power at international standards.
- To execute & operate projects through efficient and competent contract management and innovative R&D in environment friendly and socio-economically responsive manner.
- To develop, nurture and empower the human capital to leverage its full potential.
- To practice the best corporate governance and competent value based management for a strong corporate identity and showing concern for employees, customer, environment and society.
- To adopt & innovate state-of-the-art technologies and optimize use of natural resources through effective management.

1.3 ABOUT CORPORATE SOCIAL RESPONSIBILITY



As per the Companies (CSR Policy) Rules, CSR means the activities undertaken by a Company in pursuance of its statutory obligation laid down in Section 135 of the Companies Act, 2013 in accordance with the provisions contained in these rules. As per sub-section (1) of Section 135 of the Companies Act, 2013, every company having net worth of rupees five hundred crore or more, or turnover of rupees one thousand Crore or more or a net profit of rupees five crore or more during the immediately preceding financial year shall constitute a CSR Committee of the Board consisting of three or more Directors, out of which at least one Director shall be an Independent Director, provided that where a company is not required to appoint an independent director under sub-section (4) of section 149, it shall have in its CSR Committee two or more directors.

The CSR Committee shall:

1. Formulate and recommend to the Board, a CSR Policy which shall indicate the activities to be undertaken by the company in areas or subject, specified in Schedule VII;
2. Recommend the amount of expenditure to be incurred on the activities referred to in clause (a); and
3. Monitor the CSR Policy of the company from time to time.

The Board of every company referred to in sub-section (1) of Section 135 of the Companies Act, 2013 shall:

- after taking into account the recommendations made by the CSR Committee, approve the Corporate Social Responsibility Policy for the company and disclose contents of such Policy in its report and also place it on the company's website, if any, in such manner as may be prescribed; and
- ensure that the activities as are included in CSR Policy of the company are undertaken by the company.

The Board of every company referred to in sub-section (1), shall ensure that the company spends, in every financial year, at least two percent of the average net profits of the company made during the three immediately preceding financial years or where the company has not completed the period of three financial years since its incorporation, during such immediately preceding financial years in pursuance of its CSR Policy:

Provided that the company shall give preference to the local area and areas around it where it operates, for spending the amount earmarked for Corporate Social Responsibility activities;

Provided further that if the company fails to spend such amount, the Board shall, in its report made under clause (o) of sub-section (3) of section 134, specify the reasons for not spending the amount and, unless the unspent amount relates to any ongoing project referred to in sub-section (6), transfer such unspent amount to a Fund specified in Schedule VII, within a period of six months of the expiry of the financial year.

Provided also that if the company spends an amount in excess of the requirements provided under this sub-section, such company may set off such excess amount against the requirement to spend under this sub-section for such number of succeeding financial years and in such manner, as may be prescribed.

Thus, CSR provisions outlined in Section 135 of the Companies Act, 2013 and the Companies (CSR Policy) Rules emphasize the significance of not just adhering to regulations, but also promoting transparency and accountability in the ways that the companies contribute to the improvement of society and the environment.

1.4 ABOUT NHPC CSR POLICY



CSR has been an integral part of NHPC's business philosophy. NHPC Limited is conducting its business in a socially responsible way by maintaining high level of organizational integrity and ethical behaviour, in conformity with expected standards of transparency in reporting and disclosing the performance in all spheres of its activities, demonstration of concern for social welfare, adoption of best management practices and effective operational methods to win the trust and confidence of all stakeholders. NHPC is committed to making significant contributions to the community, environment, and society through well-planned CSR interventions.

NHPC has strengthened its commitment to CSR in line with Statutory Provisions. The CSR Policy of NHPC has been revised in accordance with Section 135 of the Companies Act, 2013 and the Companies (CSR Policy) Rules. NHPC also adheres to the Department of Public Enterprises (DPE) guidelines on CSR. The CSR activities undertaken by NHPC Limited align with the areas or subjects specified in Schedule VII of the Companies Act, 2013.

NHPC Limited has undertaken a number of CSR initiatives for the communities living in and around its Projects/ Power Stations / Units in the areas of Education, Health, Sanitation, Rural Development, Skill Development, Environment, Women Empowerment, Promotion of sports, Protection of art and culture etc.

NHPC has been assigned three Aspirational Districts, namely Baramulla in the UT of J&K, Chamba in Himachal Pradesh, and West Sikkim (now renamed as Gyalshing) in Sikkim, for focused development through CSR.

NHPC'S CSR VISION

- To contribute to sustainable development and inclusive growth while taking care of People, Planet and organizational goals / growth.

NHPC'S CSR MISSION

- To become socially responsible corporate entity committed to improving the quality of life of the society at large.
- To create and develop facilities for the communities it engages with.
- To balance social, economic and environmental development objectives through collective and unified efforts of all stakeholders.

The CSR Policy of NHPC is committed to the guideline of localizing its efforts, with the concentration being given to the communities located in and around its power stations and projects. It is this close proximity that enables the company to respond directly to the specific needs of these communities by intervening in ways that are relevant, timely, and directly beneficial to the residents. Accordingly, this approach of holistic community involvement gives priority to education, health care, environmental conservation, and rural development related projects. NHPC collaborates with the government, local administrations, and NGOs, including community leaders, in such a way that their proposed projects be in line with national priorities and recommendations of the local populations.

The company has strong monitoring and reporting mechanisms of each CSR initiative built into place that would enable checking on the progress of these at regular intervals. These include the preparation of comprehensive reports outlining what is spent, achieved, and the efficiency of initiatives undertaken, put in the public domain. This not only enhances transparency of the exercise but also makes room for adjustments and improvements in strategy based on empirical evidence and stakeholder feedback.

CSR Policy of NHPC Limited exemplifies the company's commitment to being a responsible corporate citizen by its strategic and localized community engagements, it is completing all statutory requirements, where the perceptible result is being seen that it contributes to the welfare of the people at large. The policy exemplifies the commitment of NHPC towards sustainable development and a realization at the company's end that it's one amongst the leaders in corporate responsibility among energy companies in India.

1.5 ABOUT IMPACT ASSESSMENT



The Ministry of Corporate Affairs in India mandates impact assessments for CSR activities through amended rules. Every company having average CSR obligation of ₹10 crores or more in pursuance of sub-section (5) of Section 135 of the Companies Act, 2013, in the three immediately preceding financial years, shall undertake impact assessment, through an independent agency, of their CSR projects having outlays of Rs. One Crore or more, and which have been completed not less than one year before undertaking the impact study. A company undertaking impact assessment may book the expenditure towards CSR for that financial year, which shall not exceed two percent of the total CSR expenditure for that financial year or fifty lakh rupees, whichever is higher.

An Impact Assessment in CSR is the critical evaluation tool that seeks to measure effectiveness and sustainability of initiatives taken by companies under their CSR obligations. This benchmark reflects not only the work being done but also the strategic alignment as to which CSR projects are aligned along with the long-term vision of the company and, more importantly, the genuine community needs.

Therefore, the crux of the impact assessment of the CSR projects lies in its ability to give clear and measurable understanding of how the CSR projects are, in fact, creating value for society and the implementing organization.

Impact assessment is the method applied in systematic evaluation towards finding outcomes and benefits of social responsibility initiatives of a firm in relation to the invested resources. Data collection on the key indicators is done before and after the implementation of a project to capture the direct and indirect effects that the project has on the target community and other stakeholders.

Among the added values of an impact assessment study conducted by an independent third-party agency, is the assurance of objectivity in the evaluation and the enhancement of the credibility to the findings. This is something that is crucial for better corporate transparency and trust among stakeholders. Furthermore, these recommendations for improvement in future help companies refine their strategies and practices of CSR for increased impacts on the society.

From an operational point of view, impact assessment includes a number of steps viz. the definition of aims and scope of the assessment, methods to be chosen, data collection, and analysis etc. Further, an effective impact assessment should include, in the context of each CSR project, the level of intervention, geographical, and cultural setting of beneficiary community needs.

1.6 PROJECT BACKGROUND

District Chamba of Himachal Pradesh has a history and cultural heritage of its own, dating back to 10th century AD. It has a very interesting and rich historical and cultural heritage. The place was founded by Raja Sahil Varman, and it was named after his daughter, Champavati. Over the years, it was ruled by dynasties like the Maru dynasty, the Mughals, and the British. Chamba district has boundaries with Jammu and Kashmir in the northwest, Ladakh in the northeast, Lahaul and Bara-Bhangal in the east, and Kangra in the southeast and south directions. The district is renowned for its temples, some of which are reminders of the mighty power Chamba once had. As regards availability of the much-needed health care facilities the people of District Chamba have faced a number of challenges. For example, for getting a MRI scan, people had to travel over hundreds of kilometers for 6 to 8 hours to places like Pathankot, Tanda, and Shimla. This was not only time taking but also

expensive for the lower income population in terms of time taken, travelling expenses. Further it also delayed the necessary treatment. Not only did this impose financial strain, but it also resulted in delays in receiving vital medical care. Furthermore, the MRI Scans thus obtained were not only very expensive but the quality of the Scans was also not good.

As medical equipment was not available locally, the Deputy Commissioner, Chamba requested NHPC to kindly consider their request to provide a 1.5 Tesla MRI Scan Machine to Pandit Jawahar Lal Nehru Government Medical College and Hospital, Chamba under the CSR initiative of the company.



Assessment Team at Project Location

The objective of this Impact Assessment is to measure the effectiveness and impact of CSR initiative of NHPC Limited in Chamba, which includes the provision of a 1.5 Tesla MRI Scan Machine. We propose to assess the specific benefits that accrue from this initiative. These largely include better scope of diagnosis, access to advanced medical services, and finally, better health outcomes for the community population in the district. This evaluation tries to understand, by and large, the effect of the MRI Scan Machine in improving diagnostic accuracy and timeliness and how the same results in more focused treatment plans and contributes to an improvement in the public health situation of the area.

The impact assessment largely is based on District Chamba, located in the state of Himachal Pradesh, and the outcomes arising out of the installation of the MRI Scan Machine. Its direct influence felt by the patients, healthcare practitioners, and hospital staff that are associated with the facility where the MRI Scan machine has been installed. Further, service providers such as the hotel proprietors, medical shop owners, and medical assistants indirectly affected have been surveyed to assess the impact on the overall economic dynamics of Chamba.

2. APPROACH AND METHODOLOGY

Multiple methods have been used to evaluate the impact of the MRI Scan Machine installed in the civil hospital, Chamba, on local public and hospital staff. These methods include data analysis, thorough secondary data study, surveys for primary data undertaken through random sampling, and interviews.



RESEARCH STRATEGY

The study design demands a comparative analysis, focusing on the diagnostic, patient care, and operational metrics before and after the installation of 1.5 Tesla MRI Scan Machine. This approach aims to assess the impact of the MRI Scan machine on various aspects of healthcare delivery within the Chamba district. A mixed methods approach has been employed, combining quantitative data analysis, including scan volumes and diagnostic outcomes along with associated costs, with qualitative insights derived through interviews with the stakeholders.

This comprehensive approach provides a holistic understanding of the effectiveness of NHPC's CSR initiative in enhancing healthcare services and outcomes in the region.



Assessment Team with Hospital Team



For data collection, a two-fold approach was adopted. Firstly, a secondary data review was conducted to gather baseline information on diagnostic capabilities, patient wait times, and scan quality before and after the introduction of this equipment. This involved analyzing existing records and reports to establish a comparative benchmark for evaluating the impact of the intervention. Secondly, surveys and questionnaires were administered to both the medical staff and patients to gather perceptions regarding the impact of the new technology. These surveys captured the insights on aspects such as the efficiency of diagnostic processes, patient satisfaction levels, and overall experiences with the upgraded healthcare services. By combining these methods, a comprehensive understanding of the before-and-after effects of NHPC's CSR initiative on healthcare delivery in the Chamba district was obtained.



To gather further insights, structured interviews were conducted with key stakeholders including radiologists, technicians, healthcare administrators, and patients. These interviews were designed to obtain a comprehensive understanding of the impact of the MRI machine on diagnostics and patient care. By engaging directly with these individuals, valuable perspectives on the effectiveness of the machine in improving diagnostic accuracy, streamlining workflows, and enhancing overall patient experience were obtained. Through these interviews, nuanced insights that may not have been captured through quantitative data alone were uncovered, thereby enriching the understanding of the outcomes of NHPC's landmark CSR initiative in the Chamba district.

- ✔ For the sampling process, two different approaches were utilized. Firstly, purposeful sampling was employed to select a diverse range of healthcare facilities, including hospitals and diagnostic centers in the area. This approach aimed to understand the varied impacts of this advanced medical equipment across different types of healthcare settings. Secondly, random sampling was utilized for both patient and medical staff surveys to ensure a broad representation of experiences and perceptions. This approach involved randomly selecting participants from the target population to minimize bias and provide a more accurate reflection of the overall sentiments and experiences related to the introduction of the equipment.
- ✔ For the survey instruments, various tools were utilized to gather data on different aspects of the impact of the MRI scan machine. For assessing the diagnostic impact, questionnaires were designed to evaluate enhancements in diagnostic accuracy, the range of conditions diagnosed, and the quality of imaging. To measure changes in patient care, surveys were used to track alterations in wait times for scans, patient satisfaction levels, and overall treatment outcomes. For evaluating operational efficiency, tools were employed to assess the operational integration of the MRI machine. This included evaluating maintenance requirements, identifying training needs, and analyzing scan throughput. Questionnaires focusing on the economic impact of the investment were administered. These surveys delved into the cost savings for healthcare facilities and the impact on patient healthcare costs, providing insights into the broader economic implications of the introduction of this medical equipment.



Interview with a Patient Attendent (Mr. Sunder) awaiting his scan

2.1 MEASURE OF SUSTAINABILITY

To measure the sustainability of the CSR Activity, IIT Jammu has used the OECD DAC framework. Each criteria used in the Impact Assessment Project acts as a lens giving a different perspectives on the intervention - both implementation and the results. The union of all these criteria provides a complete picture of the intervention. All criteria carries equal weightage with grading A (90-100), B (75-90), C (50-74), D (40-50) and F (<40). All Score are on a scale of 100.



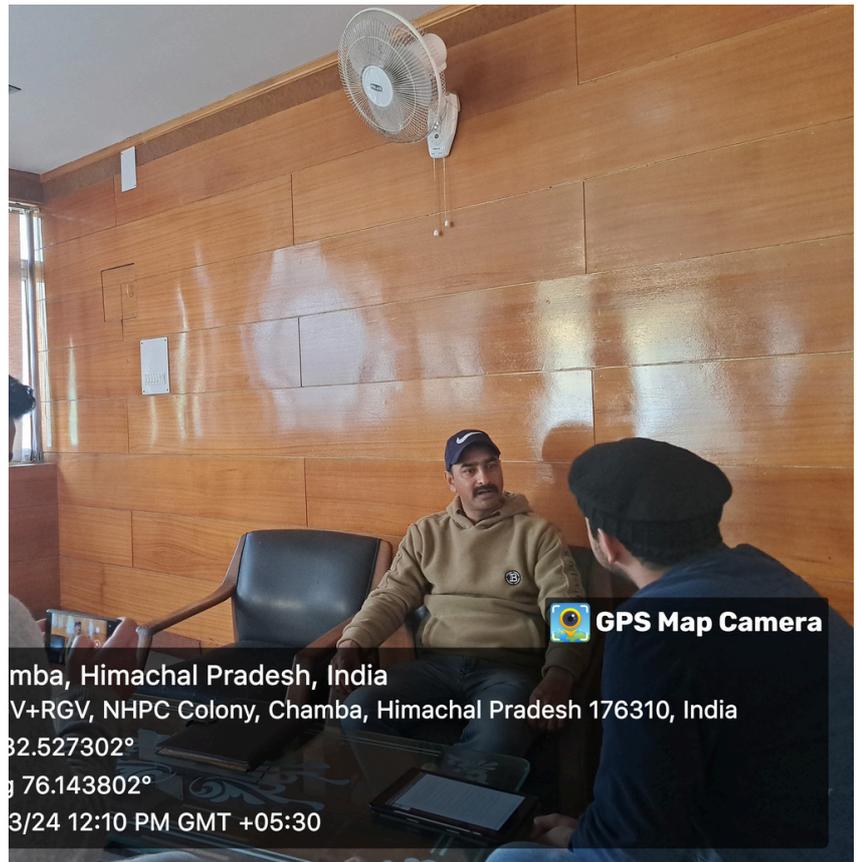
Fig. 1: OECD DAC Framework

3. CSR ACTIVITY DETAILS

NHPC has been involved in various healthcare projects through its CSR activities, demonstrating its commitment to improving healthcare access and services in communities across India. The Deputy Commissioner of Chamba formally requested NHPC Chamera-II Power Station, to provide 1.5 Tesla MRI Scan Machine as part of its CSR initiatives. Recognizing the substantial financial investment required, NHPC assumed the role of resource provider, extending financial support for the procurement of the equipment. A MoU was formalized between NHPC Ltd. and the Deputy Commissioner of district Chamba on January 22, 2020, specifying the terms of the collaboration.

NHPC clarified that while it would provide financial assistance for equipment procurement, the responsibility for installation and staff training would rest solely with the hospital, with no direct assistance from NHPC Limited. In retrospect, this has been a good strategy ensuring effecting maintenance and the usage of the machine. Subsequently, the machines were successfully installed in 2022 and have since been operational, enhancing healthcare services in the region.

Magnetic Resonance Imaging (MRI) is an advanced diagnostic tool utilized in medicine to produce detailed images of the body's organs and tissues. This technology, distinct from X-rays and CT scans, employs magnetic fields and radio waves to visualize the internal structures of the body, offering a safer alternative to methods involving ionizing radiation. Central to an MRI machine is a large, cylindrical superconducting magnet, designed to generate a strong magnetic field around the patient. This magnet is kept at cryogenic temperatures to enhance its efficiency by reducing electrical resistance. Within this magnet lies a narrow cylinder where the patient rests during the scanning process.



Interview with Corporator Chowgan Chamba

Surrounding the main magnet are the gradient coils. These coils modify the scanner's magnetic field based on the targeted body area, creating necessary variations for image capture from different angles. Another essential component is the RF (radio frequency) coil, responsible for emitting radio waves that stimulate body's atoms. This stimulation causes the atoms to emit signals, which the MRI machine captures to form images. RF coils can be integrated into the scanner or be external devices positioned around the specific body part under examination. MRI is a versatile tool in medical diagnostics, especially effective for examining the brain, spinal cord, internal organs, soft tissues, and joints. It plays a critical role in diagnosing and assessing various conditions, including tumors, brain disorders, inflammatory diseases, and musculoskeletal issues.

This project was supported to help in timely diagnosis and treatment of patients and while saving a lot of their time and money.



4. IMPACT ASSESSMENT

Since the installation of the MRI machine, District Hospital, Chamba has observed a notable increase in patient intake, signifying the positive impact of this technological enhancement on healthcare provision in the area. The advanced capabilities of the MRI machine have made the hospital a referral center for patients from neighboring facilities, elevating its status as a top choice for high-quality diagnostic imaging. The machine's advanced features enable a diverse array of diagnostic tests, including detailed examinations of the chest, abdomen, pelvis, and brain, as well as specialized vascular studies with MRI angiography. This broadened diagnostic scope is a direct result of the sophisticated technology employed by the new equipment. The superior imaging quality of the MRI Scan machine aids in the early detection and accurate diagnosis of various conditions, significantly enhancing the overall quality of healthcare services offered at the hospital.

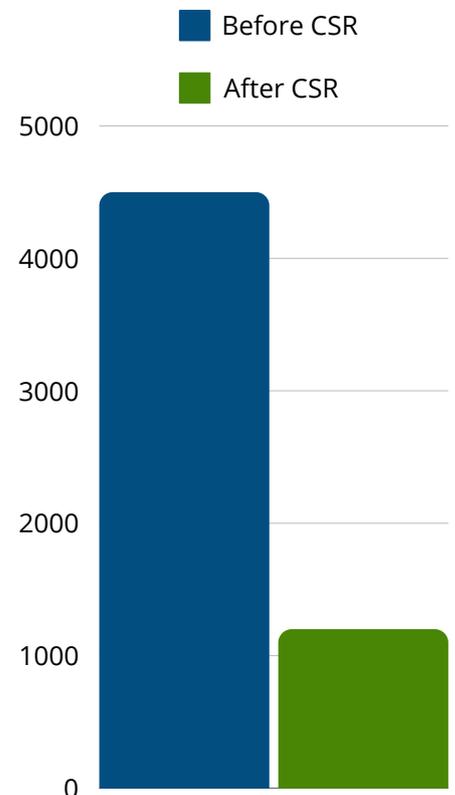


Fig. 2: Avg./Scan MRI Scan Cost Savings (in ₹)

Furthermore, it is noteworthy that patients frequently visit the facility solely for scans, opting for treatment elsewhere, showing the machines' reputation for accuracy and reliability. Remarkably, patients from distant areas such as Gyalat, located over 200 kilometers away, have expressed high satisfaction with the quality of scans received.

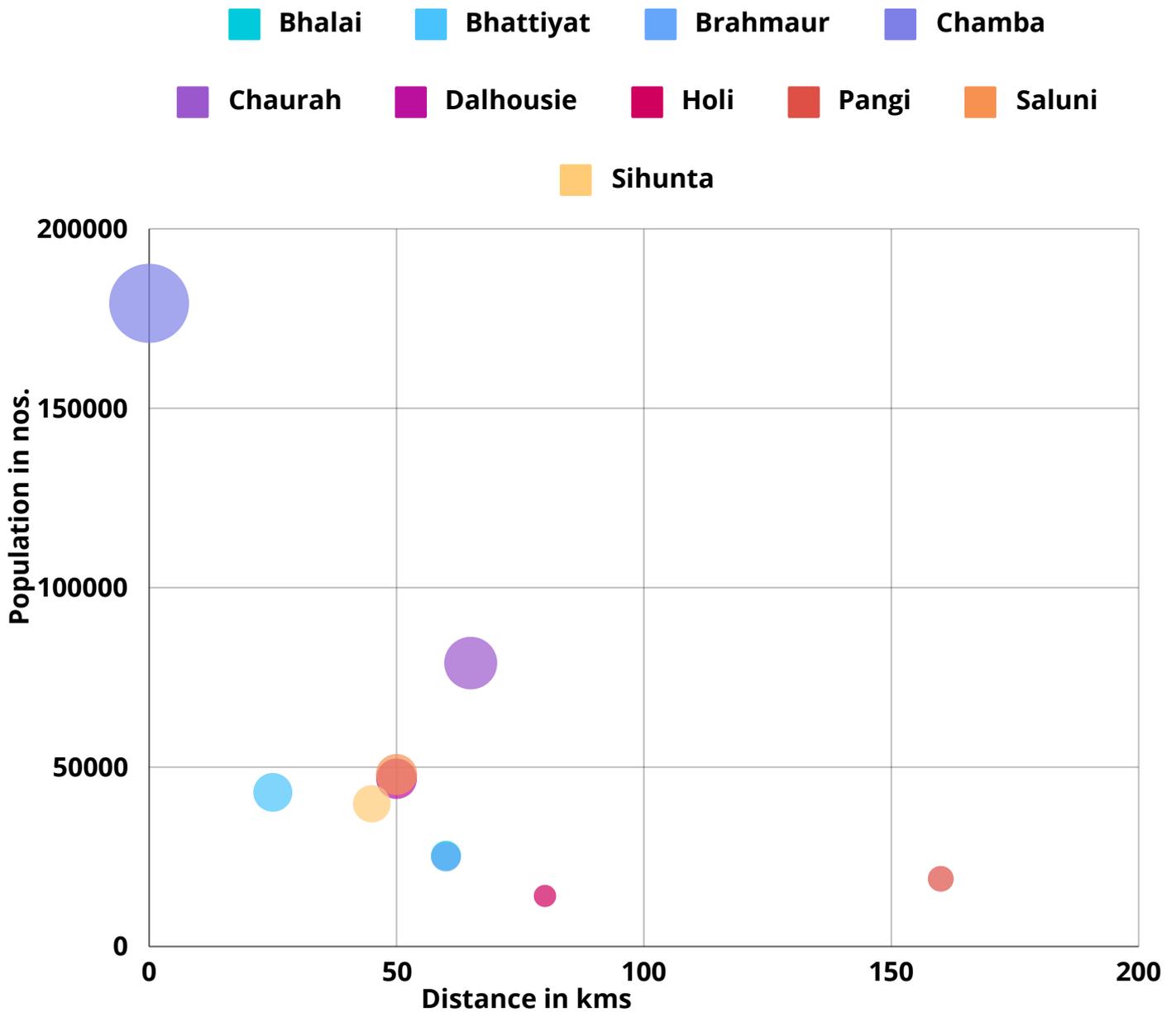


Fig. 3: Geographical Impact Metric

Beyond the immediate healthcare benefits, the broader community of the Chamba district has also experienced positive ripple effects. NHPC's CSR contribution has not only increased patient traffic to the hospital but has also created opportunities for various service providers such as medical shops, hotel owners, medical assistants, transportation services, and restaurant proprietors, consequently stimulating the local economy. Local businesses, boosted by the surge in patient footfall, have experienced heightened demand, leading to increased revenues and job opportunities. Additionally, the operation of these machines necessitates trained operators, and the surge in patient numbers also translates to increased demand for hospital staff, including nurses, cleaners, and other support personnel, thereby contributing to employment generation within the district. Moreover, the community of the Chamba district resonates with a sense of contentment and gratitude towards NHPC's benevolent support, recognizing its profound impact on healthcare accessibility and the overall socio-economic landscape.

The advanced capabilities of the equipment are evident, with the hospital averaging 19-20 MRI Scans per month. Patients express relief at the significant reduction in costs associated with MRI scans. Previously, they incurred expenses of approximately 4500 rupees for MRI scan. However, with the implementation of the MRI machine in their own town, the average cost has dramatically decreased to just 1200 rupees. This not only alleviates financial burden but also streamlines the process, allowing patients to undergo scans with ease and convenience. Moreover, by eliminating the need for long-distance travel, response and treatment times have significantly reduced, enhancing overall healthcare efficiency. Patients also appreciate the elimination of mental stress typically associated with travel, such as finding nearby accommodation. Previously, the journey to distant hospitals, spanning approximately 120 kilometers, often took up to 15 hours besides costs in taxis and ambulances. This shows the immense relief and benefits brought about by the accessibility of these scans in Chamba. Additionally, the expedited report delivery (within half an hour) further enhances the patient experience. The underprivileged families holding IRDP cards are afforded the opportunity to MRI scans and reports completely free of charge, reflecting the commitment to equitable healthcare provision in the community.



Fig. 4: Aggregate Community Satisfaction Metrics

5. Testimonials

IIT Jammu research team interacted with various stakeholder who were operating the machine and taking the benefit of the machine. It was told that the introduction of this high end medical equipment in Chamba has revolutionized the access to healthcare system not only in Chamba but also in the adjoining areas. the machine installation, supported by NHPC in the district Hospital Chamba is of highest quality with advanced features. A MRI scan for which the residents of Chamba had to go to far off places of Pathankot, Tanda, and Shimla is now available in the district headquarters. Moreover, the waiting time to get these scans done is nil. Many of the patient who had to go to other hospitals for treatment use these high-end equipment as it is reasonably priced and service provisioning has no waiting time. This equipment has saved the hard-earned money of the low income people. It was also informed that after the introduction of this equipment, local markets have flourished as more no. of people visit Chamba for treatment which generates indirect employment for shopkeepers, Hotel and Restaurant owners contributing towards the economy of Chamba town.

The hospital's doctors express satisfaction with the performance of the machine. Notably, the machine is lauded for its user-friendly interface and advanced software, facilitating seamless operation. With cutting-edge technology, the machine delivers scans of the highest quality, positioning them as the epitome of innovation in the market. The doctors express particular satisfaction with the newfound ability to handle emergency cases locally, eliminating the need for patient referrals to distant hospitals.



Dr. Vipin Thakur
Medical Superintendent,
District Hospital Chamba, Himachal Pradesh

“The MRI Machine was installed in early 2022 and till now around 350 residents of Chamba have benefitted from this machine. Earlier People had to travel to places like Tanda, Pathankot and other private healthcare facilities. NHPC is doing great in CSR by contributing this advanced equipment. They have always been outstanding and at the forefront for the development of the area. Chamba being an aspirational district, requires these facilities and NHPC is doing well in providing these facilities to the District. People are very happy and feel obliged to NHPC for contribution. I hope that NHPC Ltd. shall keep on doing these kind of CSR activities for healthier future of Chamba.”



“My name is Ravish Kumar. I am from Saluni, District Chamba which is more than 50 kms far from Chamba. I am here for treatment of my elder brother. We both are farmers and our income is very less. We incurred expense of ₹ 1326 for this Scan. If we had IRDP card, the scan would have been done for free. If this MRI Machine wasn't here, we had to incur expense of ₹ 4000- ₹ 6000 and had to go to Tanda or Pathankot. It was easy to get the scan done here and we didn't face any problem.



Dr Abid
Senior Resident,
District Hospital, Chamba, Himachal Pradesh

“On an average about 10-15 MRI Scans/month are done here. We are doing all kind of investigations using this MRI Machine. Chamba is very fortunate as now we are doing all type of Scans here which was not possible before. People had to go to PGI Chandigarh, Tanda Medical College etc. Now we can even treat the emergency patients here. This is the best machine available and is at par with the best standards available in the market.”



**Mr. Khalid Mirza,
Corporator, Chowgan, Chamba, Himachal Pradesh**

Chamba has a huge area. Before the introduction of this machine, people used to go to Shimla and Pathankot and had to take around 15-16 hours journey to reach these places. Moreover, due to the MRI Scan Machine contributed by NHPC to District Hospital Chamba, the markets of Chamba have observed economic boost. The people from different areas consider Chamba for healthcare after this advanced healthcare equipment. The Hotel and Restaurants of Chamba have reported huge increase in their earnings and it has also resulted in employment generation. Moreover, people who chose to go to Pathankot for healthcare now consider Chamba over it as the waiting times are negligible. The people from tribes like Gujjar, Gaddi etc. have benefitted from this equipment. The machine is like a blessing to the residents and I am very thankful to NHPC's management and congratulate them on this social initiative.

6. OECD DAC FRAMEWORK MEASURE

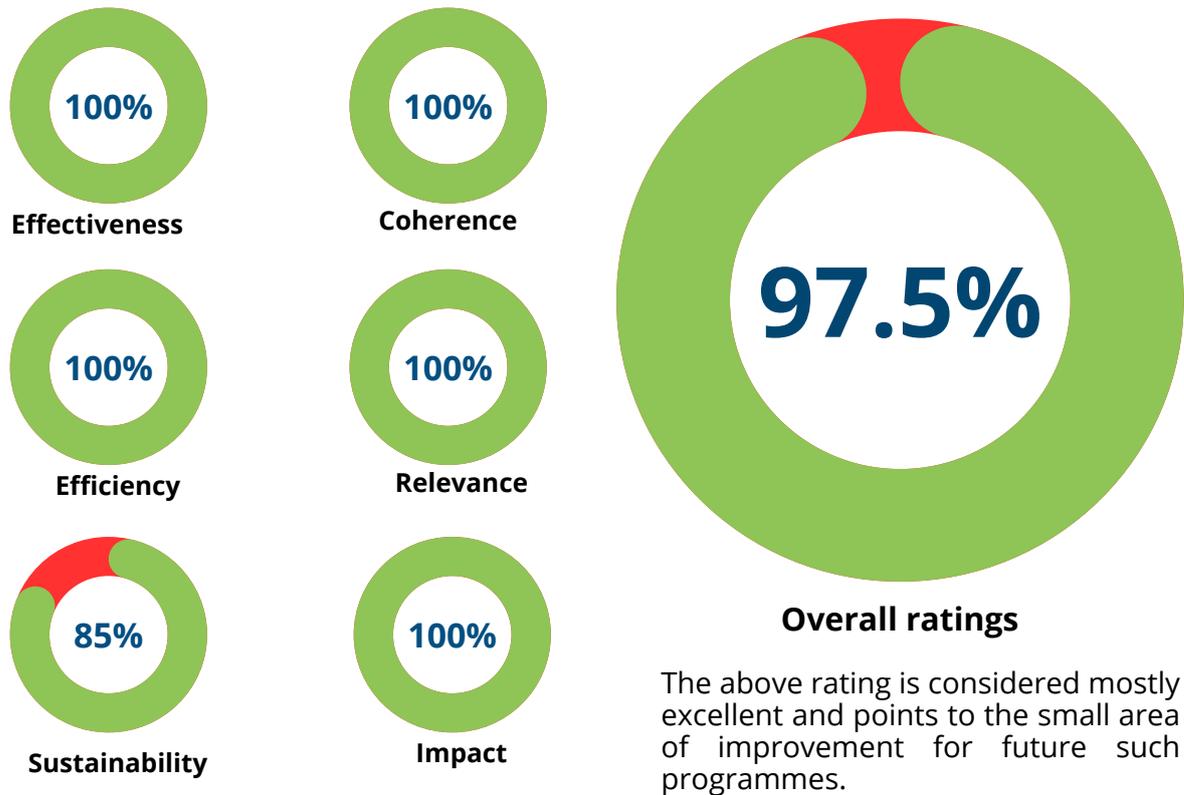


Fig. 14: OECD DAC Measure

1. Relevance:

- The project is highly aligned with NHPC’s CSR Policy and the essential needs of the community, as identified through stakeholder consultations and assessment carried out as per the guidelines.

2. Coherence:

- Strong coherence is observed, with the project adhering to NHPC’s CSR policy and integrating effectively with other community development initiatives.

3. Effectiveness:

- Effectiveness shows an A grading as observed from the stakeholder discussions.

4. Efficiency:

- The project’s efficiency receives an A rating as it has minimum waiting time catering to all residents of Chamba.

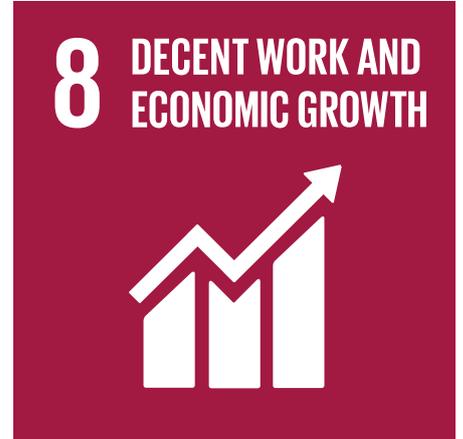
5. Sustainability:

- The project scores high on sustainability. However, some staff shortage concerns were raised during discussions.

6. Impact:

- The project has positively impacted the target communities notably the people with IRDP Cards which has helped in getting scans free of cost.

7. ALIGNMENT WITH SDGs



This initiative directly contributes to several United Nations Sustainable Development Goals (SDGs):

SDG 3 (Good Health and Well-Being): By improving the health and reducing treatment delays.

SDG 8 (Decent Work and Economic Growth): By positively impacting the markets of Chamba and generating employment

SDG 9 (Industry Innovation and Infrastructure): By investing in health infrastructure of District Chamba.

SDG 17 (Partnerships for the Goals): Demonstrating effective collaboration between NHPC Limited and District Administration, Chamba.



8. RECOMMENDATIONS

The recommendations for the future CSR Projects like these are as follows:

Regular checks are imperative to ensure the proper functioning of the machine, contributing to its maintenance and longevity. These routine assessments play a crucial role in identifying and addressing any potential issues promptly, thereby optimizing the machine's performance and reliability.

Additionally, periodic assessment and training of the personnel operating the machine are essential to ensure adherence to protocols and best practices. By verifying their proficiency and diligence in their duties, these reviews help maintain the quality and efficiency of the machine's operations. Despite minimal operational challenges, the implementation of these proactive measures is essential to uphold the machine's continued functionality and effectiveness in delivering essential healthcare services.

1.5 TESLA MRI MACHINE TO DISTRICT HOSPITAL CHAMBA

Location: Chamba, Himachal Pradesh



**CSR IMPACT ASSESSMENT
REPORT**



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2024