

ENDLINE EVALUATION REPORT POWER TO EMPOWER PROJECT MADHYA PRADESH, INDIA



IMPLEMENTED BY

HAND IN HAND, INDIA

Supported By Hand In Hand, Sweden

ABOUT THIS REPORT

This report is an outcome of the End-line project Evaluation study of the 'Power To Empower' project conducted by Arati Pandya an Independent Development Consultant and Hand in Hand (HIH), India, which draws on the findings of a 3 -year long project – Power To Empower - to extract best practices and lessons learnt from its different initiatives undertaken in the Dewas, Dhar and Indore region of Madhya Pradesh. Funded by HIH Sweden, the project works to "Reduce Energy Poverty through improving socio-economic capacities of Women in Madhya Pradesh, India, by Promoting Energy Based Enterprises with a focus on women entrepreneurs to either transform their existing business into energy-based enterprises or learn new skills to establish new energy based-enterprises; and by promoting efficient, clean and sustainable energy alternatives in their households through awareness and handholding support to women for adopting clean and sustainable energy alternatives in their daily lives.

The findings are based on a *quantitative research method* covering a sample of 400 respondents selected through purposive random sampling methods across the three districts, as well as *qualitative research method* covering 9 focus Group Discussions (FGDs) with women beneficiaries and 4 key Informant Interviews (KIIs) across a wide range of stakeholders including PRI members (Sarpanch), Community level service providers (Bank Mitra etc.), Vendor, collaborating NGOs and other stakeholders etc. as well as women members.

While the End-line evaluation study was primarily conducted by Arati Pandya, an external Researcher, who also authored this Report; HIH India — Madhya Pradesh provided necessary technical support (Tool preparation, conducting Survey, data analysis etc.) in conducting the research. The research Team from HIH India — Madhya Pradesh includes: Ankit Khare, Devendra Dwivedi and Shiv Charan.

We particularly thank Dr. Madhu Saran, President, from HIH India who has been a constant support during the process of this study. The Evaluation Team also acknowledge the support provided by a number of stakeholders including the women community members, who provided their time and inputs during interviews which forms the basis of this report. We thank them for their cooperation and generosity.

Study Team led by Ms. Arati Pandey (External Consultant who authored the report) Supported by Ankit Khare, Devendra Dwivedi, Shiv Charan and Dr. Madhu Sharan. November 2022

ACRONYMS

MP	Madhya Pradesh			
SC	Scheduled Caste			
ST	Scheduled Tribe			
OBC	Other Backward Caste			
HIH	Hand In Hand			
EBE	Energy Based Enterprises			
P2E	Power To Empower			
PRI	Panchayati Raj Institiutions			
M & E	Monitoring and Evaluation			
OECD	Organisation for Economic Co-operation and Development			
DAC	Development Assistance Committee			
ToR	Terms of Reference			
FGD	Focus Group Discussion			
KII	Key Informant Interviews			
LFA	Log Frame Approach			
SDG	Sustainable Development Goals			
HAP	Household Air Pollution			
ToT	Training of Trainers			
BDS	Business development Service			
LPG	Lequified Petroleum Gas			
СВО	Community Based Organisations			
CSC	Common Service Centre			
DGM	Deputy General Manager			
RSETI	Rural Self Employment Training Institute			
KVK	Krishi Vigyan Kendra			
ASHA workers	Accredited Social Health Activist Workers			
ANM	Auxiliary Nurse Midwife			

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BASIC INFORMATION ABOUT THE PROJECT

Name of the Project (Evaluated)	POWER TO EMPOWER – Reducing Energy Poverty through improving socio-economic capacities of Women in Madhya Pradesh, India Hand In Hand (HIH) India Address: Corporate Office: New No.33, Old No.14, 48th Street, 9th Avenue, Ashok Nagar, Chennai – 600 083 Tamil Nadu, India +91 44- 4341 3200 Head Office: 90/A, Nasarathpet village, Little Kancheepuram – 631501 Tamil Nadu, India +91 44- 6720 1000 Email: info@hihseed.org Website: https://hihindia.org/			
Implementing organization				
Funding organization	Hand In Hand Sweden			
Geographical Coverage	Dewas, Dhar and Indore districts of Madhya Pradesh, India			
Project Duration	August 2019 to July 2022			
Evaluator/s	Arati Pandya, Independent Consultant, New Delhi With support from the M&E Team of HIH India			
Period of Evaluation	August 2019 to July 2022			
Date of Evaluation	5 th September to 9 th September 2022			

EXECUTIVE SUMMARY

CONTEXT AND BACKGROUND: Madhya Pradesh is one of the poorest states in India with over
one-third population of Madhya Pradesh living under poverty (as reported by Niti Ayog National
Multidimensional poverty Index – Baseline Report 2021¹). The lack of livelihood opportunities,
especially in sectors like agriculture, coupled with restrictions imposed on the use of forests, has
resulted in the migration of the poor from rural areas to cities.

Women, in Madhya Pradesh, face discrimination in all spheres of life and are the hard recipients of the orthodox social systems with multiple marginalization and exclusion, despite the constitutional guarantee for equal rights and privileges for men and women. The worrying unequal sex ratio of 931/1000 and preferences for son are fundamental indicators of the Gender based discrimination in the state. Moreover, with high illiteracy rate, lack of professional skill, little control over land and other productive assets; rural women are restricted to low paid occupations primarily in the informal and unorganized sector with limited social protection, exclusion from access to institutional credit and having a marginal role in decision making.

Recognizing the socio-economic dynamics of the marginalized community, particularly women, in Madhya Pradesh, who continue to be victims of economic social, cultural and political marginalization and realizing that their socio-economic empowerment is important for the holistic development of the society; Hand In Hand (HIH) India² started its interventions in Madhya Pradesh in the year 2008 through implementing several projects. In MP (across three districts – Indore, Dewas and Dhar), HIH India follows its integrated community development approach with a focus on poverty alleviation through job creation, and women empowerment; and complements efforts the state government to open-up all opportunities to women towards convergence. HIH India Believing in the SHG approach to poverty reduction, HIH India has organized women and formed 12,634 SHGs by the end of 2018 and with skill training and advocacy, HIH India reportedly promoted livelihoods for 80,605 women.

➤ THE "POWER TO EMPOWER" PROJECT: In working through the overall socio-economic empowerment of women in Madhya Pradesh, HIH India realized that and access to energy is fundamental to improving quality of life and is imperative for economic development, particularly that of women. Further considering that there is a strong correlation between gender and energy poverty³ in India; and in consideration of the fact that a high percentage of women in low-income households in Madhya Pradesh face several structural and cultural barriers in accessing equitable resources of energy (as compared to men), HIH India started the

¹ https://www.niti.gov.in/sites/default/files/2021-11/National MPI India-11242021.pdf

² Hand in Hand India (HIH) is a global non-profit organisation, working since 2004 across 18 States of India, to alleviate poverty through a unique model of job creation and integrated community development in five intersecting sectors i.e., education, health, and skill development, livelihoods promotion, and green environment, as it believes that poverty is multidimensional. https://hihindia.org/

³ Energy poverty refers to a situation where a household has technically access to energy but cannot afford adequate energy services to meet basic needs. The energy poverty line is defined as the threshold point where the energy consumption begins to rise with increase in household income. Several studies have established high correlation between energy consumption and economic growth.

"Power To Empower" project to address the situation with funding **support from HIH Sweden**. Thus, the project "Power To Empower" was implemented for a period of three years from **August 2019 to July 2022**, with the aim to train and promote energy based enterprises (EBE) for rural poor women to enable them to take advantage of rural electrification to address concerns of household toil, safety issues in the collection of firewood and, lack of equitable access to economic and social resources in households and communities, while enhancing their incomes. The project was implemented for a period of three years (April 2019 to March 2022) in the three districts of Madhya Pradesh – Dewas Dhar and Indore.

Thematically, the 'Power to Empower,' project works in two key areas of interventions: a) **Promoting Energy Based Enterprises among** women entrepreneurs to either transform their existing business into energy-based enterprises or learn new skills to establish new energy based-enterprises; and b) **Adopting efficient, clean and sustainable energy alternatives in their households,** through providing awareness, training and handholding support to women for adopting clean and sustainable energy alternatives in their daily lives.

With these focus areas, the project intended to **reach out to 4000** women (mostly women from backward communities including SC, ST, and other vulnerable groups) in the age group of 18-60 from the 9720 SHG members (45%), who are already running their enterprises. Indirectly, the project intends to reach out to 10,000 family members, community and other stakeholders including government officials and PRI members.

- 2. THE ENDLINE EVALUATION: With the end of the Power to Empower project in July 2022, HIH India (and HIH Sweden) decided to carry out an external evaluation with the objectives to a) the achievements of the Goal and Objectives of the Project against the specified targets, b) to assess the overall outcomes of the project in terms of the effectiveness of the interventions i.e. use of clean energy in business and as cooking fuel, c) to assess any spillover impact of the project in the Communities even if this was not the overarching goal of the project, d) to identify the intended and unintended outcomes, best practices and lessons learnt that arose during project implementation, e) to assess the challenges that were encountered during the project implementation and ways in which they were addressed, and f) to provide recommendations for sustainability and determine the way forward.
- ▶ METHODS OF DATA/INFORMATION COLLECTION AND ANALYSIS: The methodology adopted for the evaluation was participatory in nature and used both qualitative and quantitative techniques for data and information collection. The different tools used are a) Personal Interviews (Survey) with 400 target group members selected on the basis of strategic random sampling, b) Focus Group Discussions (FGDs) with 9 groups (3 in Dhar district + 3 in Dewas district + 3 in Indore district) conducted covering 105 SHG women Entrepreneurs, c) Key Informant Interviews (KIIs) (Semi-structured Interviews) with 8 key stakeholders from the PRI members (Sarpanch), Community level service providers (Bank Mitra etc.), Vendor, collaborating NGOs etc., and d) Case Studies through detailed interview with 4 selected women entrepreneurs.

The survey respondents and FGD groups were selected on the basis of their performance, effectiveness of the business, proactive initiatives, emergence of leadership and enterprise development. The data and information thus collected were analysed to arrive at the findings of the study.

3. OVERVIEW OF FINDINGS: The 'Power To Empower' project was implemented at a time when COVID pandemic was at its peak. Even before the project could complete the first year of its implementation and could gear up to pick up the momentum; the lockdown started. It may not be incorrect to state that the project has moved through the challenges of COVID lockdown and its subsequent restrictions. With the dreadful environment, the pace of implementation of the project was affected significantly. However, it is extremely commendable that despite the challenges, the project has been able to cope well with the situation by diversifying its operation and have been able to accomplish all its activities and have remained successful in achieving its set targets. Interestingly, apart from the planned activities, the project has been able to carry out several additional activities in addressing the COVID pandemic situation (like awareness on covid safety protocols, psychological counselling etc.), which further occupied space and attention within the already squeezed time period of the project. Even with all these challenges, the project has been able to make a visible impact in in addressing the energy poverty in the region while mainstreaming gender concerns in its contribution towards an 'inclusive and equitable' society.

Some of the key elements that worked in this direction are listed below:

- i. Considering the global and local context vis-à-vis energy poverty amongst rural women in the operational districts, the programme components - promoting energy-based enterprises and support for rural electrification, promotion of more modern cooking fuels, and encouraging greater adoption of improved biomass stoves, identified by the project hold significant relevance towards reducing energy poverty in the area have added enormous value in contributing to the socio-economic empowerment of poor rural women.
- ii. The activities undertaken by the project are quite in sync with the stated needs of the rural poor women of Madhya Pradesh and are strategic in addressing the existing gaps in enhancing their socio-economic status through addressing the energy poverty quotient of the community and the region.
- iii. Further, in a situation, where the target community has been experiencing 'deprivation of energy' because of their low social status, the model is absolutely relevant as it has worked both as a tactic **to address specific problems** and issues faced by the focused community, and **also brings added ingredients** in intensifying the element of community empowerment.
- iv. The project has a **competent team both at the management and implementation level**. Despite the COVID pandemic and its impact on the project implementation, the project Team has been able to undertake the planned activities in an effective manner. Further,

having local Team members has remained a great advantage for the project with their understanding of the geography, local language, culture and dynamics. This has helped tremendously in reaching out to the target community, in building confidence of the target community in the project and as a result, in ensuring greater participation in project activities and ensuring better results.

- v. The **stability of the project team members** has also worked in favour of the project in achieving the project results. Considering that HIH India have been implementing multiple projects in the geography, the project staff members, by virtue of their long association with HIH India, have been part of more than one project and hence have a greater understanding regarding the complementary nature of the projects, thus avoiding possible duplication and optimising impact.
- vi. By virtue of its nature, the project entails promotion and use of several machines and equipment/s that involves technological and digital literacy. Operating such machines and equipment' has a **distinct gender identity**, particularly in rural context and have always been considered as domain of male members in the community. The project, through enhancing the skills and knowledge of rural women members, has **helped in breaking the barrier and myths surrounding the usage of energy-based equipment** and machinery by women, thereby building self-confidence of women and in empowering them.
- vii. The **organization of the project** with respect to its staff members, clarity in role and responsibilities, and clear line management has proved to be one of the **key factors for the efficient management** of the project, leading to timely implementation of project activities and achievement of results.
- viii. The project through use of power (mechanization and automation) has served the dual purpose of addressing the productivity and profitability of micro enterprises and small businesses by rural women, and also involving women in the mechanization value chain not just as beneficiaries but also as controllers or owners of machineries; thus, contributing to the ultimate result of women's empowerment.
- ix. Through its **two-pronged approach**, well thought out strategy, well-designed activities and well organised team, the project has been able to **mainstream gender concerns** in mechanization value chain to a good extent and have been able to **build economic self-reliance** amongst women mebers through increased skill and capacity; thereby, contributing to the larger objective of reducing energy poverty in the region.
- x. **Convergence with govt. schemes** like SAUBHAGYA- Pradhan Mantri Sahaj Bijli Har Ghar Yojana and Pradhan Mantri Ujjwala Yojana (PMUY), has complemented the efforts by the project to a great extent and has contributed to the **sustainability of results**. Subsidized electric connections eased establishment of power-based enterprises and use of electric induction stove for cooking for the rural community.

xi. Efforts made by the project in **fostering coordination and collaboration** with **significant stakeholders** like local service providers, vendors, Govt. Extension agencies, women entrepreneurs' associations, NGOs, cooperatives as well as financial institutions, has a great potential to contribute to the sustainability of results, through improving access to information and other relevant services for the women members and in adding value to their efforts in building the enterprise.

However, the **evaluation identified certain areas, that require attention** as the project decides to step forward in future. They are summarized below:

- i. It was found that there has been a **lot of emphasis on Tailoring/apparel** as an enterprise within the project. While tailoring seems to be the most popular trade amongst the rural women having known the basic skill as well as familiarity of operating the sewing machine, the viability of the trade as an enterprise posing as a challenge for many in the absence of regular orders and their capacity to explore and extend the market.
- ii. While the project has done extremely well in facilitating adoption of clean and efficient energy for cooking particularly through promotion of electric induction stoves, maintenance and repair of the same seem to be an area of concern. The evaluations found that a good number of women have stopped using the induction stove within a span of few months of procurement, primarily because of the hassle and time involved in the available option to repair the same. Moreover, there is limited option for them to repair the stove locally once it breaks down.
- iii. Solar system as a viable and sustainable source of energy does not seem to have got adequate attention in the project. Very few solar energy dependent enterprises were found within the project. Considering that solar energy is cost efficient, renewable and sustainable, there remains a large scope to promote solar energy as an alternative source of clean and efficient energy.
- iv. Number of staff engaged with respect to total beneficiary coverage by the project was found be on the lower side, affecting the qualitative achievement of results in the absence of desired attention and focus paid to different activities of the project.
- v. While appropriate skill training and technical training have helped in building capacity of women entrepreneurs and they are now able to produce more, but in the absence of regular orders, the profit margin getting affected and so as the growth of the enterprise. With their limited capacity to explore and expand the market, the viability of the economic activity is at risk, thereby affecting the sustainability of results.
- vi. Further, in the **absence of adequate diversification of economic activity** within the project, a large number of women members are holding on to tailoring and stitching and have invested in motorized industrial sewing machines. Such a situation is further affecting the sustainability of the efforts in the absence of adequate market linkages in relation to the quantity of orders.

Having said that, with all its strengths and challenges, the project seems to be a right move, in the right time and in the right direction in addressing the energy poverty in the region while mainstreaming gender concerns in its contribution towards an 'inclusive and equitable' society.

RECOMMENDATIONS: Recommendations with respect to **operational inputs in case there will be** a **continuation of another phase of the project are:**

- i. It would be useful to include skill training as electrician/mechanics as a livelihood option within the project and train few women members in each block to undertake repairing of the induction stoves along with other electrical/electronic equipment. Such an initiative would have taken care of several issues a) addressing the gender barrier to male dominated professions like electrician/mechanics, b) Securing a stable livelihood for the women members through acquiring the skill, c) contribute to creating an ecosystem through providing local options for repair the induction stove and other equipment to the larger community and d) ultimately, sustaining the project results.
- ii. A **thorough 'scoping analysis' is recommended** to initiate appropriate action towards use of solar energy as an alternative energy in future interventions of this nature. Promoting solar energy also has the advantage of creating livelihood opportunities for the community including women, through training and support in solar panel installation and maintenance of solar systems, and in turn, contributing to the economic empowerment of women, in particular.

Recommendations with respect to **strategic inputs for consideration by HIH India towards improving its future interventions** in the best interest of the organization and the community:

- i. Considering that there has been a huge pressure on few selected trades with a large percentage of target community depending on these few trades for their livelihood, it is recommended for HIH India to conduct a detailed 'mapping analysis' and explore possible scope for appropriate diversification of economic activities for women, both farm and non-farm based, which are suitable to the geography, can garner adequate demand, and can address the gendered stereotypes in the society.
- ii. Lately with the changing context of rural India owing to implementation of several development programmes and schemes by government aimed at addressing economic and social development issues faced by the rural community including women's empowerment, livelihood creation, skill development, water supply, energy, financial inclusion, etc., the evaluation recommends that HIH India undertake a detailed 'Situational Analysis' of the region, identify gaps and accordingly revisit its intervention strategies, work out its intervention areas, towards making its efforts complementing in ensuring greater impact.

1. INTRODUCTION

1.1. CONTEXT

- ➤ With a population of over 73 million, Madhya Pradesh is the second largest Indian state by area and fifth most populous State among 29 States and 7 Union territories in India. Despite its rich natural resources, Madhya Pradesh is one of the poorest states in India with over one-third population of Madhya Pradesh lives under poverty, according to the recent report released by NIti Ayog National Multidimensional poverty Index Baseline Report 2021⁴. The report says MP is fourth poorest state in India, only above Bihar, Jharkhand and Uttar Pradesh. Roughly around 31.65% of its population (over 24 million people) are poor and living below the poverty line⁵.
- ➤ The state has a sizable ST and SC population, which accounts for 21.9 percent and 15.62 percent respectively, according to Census 2011. Other Backward Classes has been estimated for 50.09 percent of households and are highest in state⁶.
- Significantly an agrarian state, the economy of Madhya Pradesh is reflecting rapid strides towards industrial and service sectors as well, resulting in rapid urbanisation in the past two decades. Further, lack of livelihood opportunities, especially in sectors like agriculture, coupled with restrictions imposed on the use of forests, has resulted in the migration of the poor from rural areas to cities. As a result, the urban population in



the last 10 years (from Census 2001) has seen an increasing trend accounting to 27.63% of the total population.

Women in Madhya Pradesh, like any other parts of Indian societies, face discrimination in all spheres of life and are the hard recipients of the orthodox social systems with multiple marginalization and exclusion, despite the constitutional guarantee for equal rights and privileges for men and women. The same is not limited only to the fields of education or access to equal economic opportunities, but also in the most elementary fields like health, nutrition and survival. Gender based discrimination in the state is evident in the unequal sex ration ((931/1000) against an already worrying national average (940/1000)) and lower human

⁴ https://www.niti.gov.in/sites/default/files/2021-11/National MPI India-11242021.pdf

⁵ The poverty rank is calculated according to the percentage of people below poverty-line and is based on MRP-consumption. The income limit for households for qualifying as a beneficiary under the BPL (below poverty line) list has been pegged at about INR 27,000 per annum, according to the methodology approved by the Govt. of India.

⁶ Govt has not enumerated caste-wise population other than SCs and STs in Census 2011. So OBC Percentage is not accurate & based on various estimate.

development indicators for women. A fundamental indicator of gender-based inequality is seen in the preferences for sons.

Though the literacy rate in the state has seen an upward trend at 69.32 percent (male literacy 78.73 percent and female literacy 59.24 percent) as per 2011 Census, access to education is still not a reality for many women in the rural Madhya Pradesh. With more than 90% of rural women being illiterate and unskilled, they are restricted to low paid occupations, primarily in the informal and unorganized sector, with limited social protection. Women have little control over land and other productive assets, which too excludes them from access to institutional credit.

Interestingly, the state government has been taking several steps lately to open up opportunities to women so that the full potential of women is realized towards improving their standard of life.

1.2. ABOUT HIH INDIA AND ITS INTERVENTION IN MADHYA PRADESH

- ➤ Hand in Hand India (HIH) is a global not-for-profit organisation working towards fighting poverty and creating jobs since 2004. It is a public charitable trust, working across 18 States of India, to alleviate poverty through a unique model of job creation and integrated community development in five intersecting sectors i.e., education, health, and skill development livelihoods promotion, and green environment. HIH uses an integrated approach to alleviate poverty because it believes that poverty is multidimensional.
- ➤ With a vision to alleviate of poverty while focusing on access to education, affordable healthcare, skill development, entrepreneurship, financial inclusion and clean environment; HIH India has been exercising its mission to "work hand in hand with poor women, children and communities to provide them with dignity, hope and choice for sustainable development". Though implementation of strategic projects, HIH works in different areas including empowering women, educating children, creating healthcare access, combating climate change and creating jobs. HIH India also nurtures social entrepreneurship in India.
- Recognising the socio-economic dynamics of the marginalized community, particularly women, in Madhya Pradesh, and realizing their socio-economic empowerment is important for the holistic development of the society; HIH India started its interventions in the year 2008 through a systematic need analysis exercise. HIH India started its interventions with projects that follows an integrated community development approach with a focus on poverty alleviation through job creation, and women empowerment. The complementary nature of the efforts by the state government to open up all opportunities to women too has worked for HIH towards convergence.
- Currently active in two regions i.e. Dewas and Dhar (across three districts Indore, Dewas and dhar), HIH India works in areas of promoting education, health, skill development, financial inclusion, enterprise development and natural resource management. Majority of the targeted households in the operational villages of Dewas depend on agriculture for their subsistence. Monthly income for households of 5 members range between 43 USD to 214 USD but are

mostly clustered around 71 USD. Women work mostly in farms during the sowing and harvest seasons with little source of income during the fallow period. Dhar district, on the other hand, is more backward in terms of development, with a higher percentage of tribal population. 71% of the households in Dhar have a low standard of living and 49% of the women are illiterate.

➢ Believing in the SHG approach to poverty reduction and women's empowerment, HIH India formed 12,634 SHGs with 148,994 women in Madhya Pradesh through strategic interventions in 10 years (by the end of 2018). Out of the 12,634 SHGs formed, 521 SHGs are in Dewas district, 421 SHGs are in Dhar district and 30 SHGs are in Indore district of Madhya Pradesh, covering about 9720 women members. With skill training and advocacy, HIH India reportedly promoted secure livelihoods for 80,605 women creating 120,908 jobs in the region. Most of these women is claimed to be financially and digitally literate, able to take independent decisions, and operate businesses.

1.3. BACKGROUND

- ➤ In working through the overall socio-economic empowerment of women in Madhya Pradesh, HIH India realized that and access to energy is fundamental to improving quality of life and is imperative for economic development, particularly that of women. Further considering that there is a strong correlation between gender and energy poverty⁷ in India; and in consideration of the fact that a high percentage of women in low-income households in Madhya Pradesh face several structural and cultural barriers in accessing equitable resources of energy (as compared to men), an intervention in the direction was felt imperative by HIH India to address the situation. In doing so, HIH India also took note of the complementing initiatives by the State government, the major one being the "Saubhagya"⁸ and "Deendayal Upadhyaya Gram Jyoti Yojana"⁹ under which the state claims to have electrified 100% of its villages with at least 18 hours of uninterrupted supply of power to rural households. However, there are issues related to the power supply like affordability, access, continuity and voltage drop being the fundamental issue faced.
- Hence, in its efforts to take a complementing step forward, and with a view to bring about holistic empowerment to the poor rural women in Madhya Pradesh (with specific reference to

⁷ Energy poverty refers to a situation where a household has technically access to energy but cannot afford adequate energy services to meet basic needs. The energy poverty line is defined as the threshold point where the energy consumption begins to rise with increase in household income. Several studies have established high correlation between energy consumption and economic growth.

⁸ The Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHGAYA) was launched in Madhya Pradesh on 22nd December 2017. The SAUBHAGYA Scheme is a central Govt. Scheme launched to achieve universal household electrification in all parts of the Country at a cost of Rs. 16,320 crore including Gross Budgetary Support (GBS) of Rs. 12,320 Crore from Government of India. All States and Union Territories of the Country are required to complete household electrification in their respective jurisdiction by 31st March 2019.

Dewas, Dhar and Indore districts); **HIH India decided to intervene into the situation and reduce the energy poverty in the region.**

Thus, the project "Power To Empower" was conceptualized and implemented during August 2019, with the aim to train and promote energy based enterprises (EBE) for rural poor women to enable them to take advantage of rural electrification to address concerns of household toil, safety issues in the collection of firewood and, lack of equitable access to economic and social resources in households and communities, while enhancing their incomes.

1.4. PROJECT SUMMARY

1.4.1. PROJECT TITLE

The project titled - 'Power To Empower' in Madhya Pradesh.

1.4.2. PROJECT OBJECTIVE/S

Overall Objective: Improving the quality of Life (in terms of income improvement and better health) for rural women in Madhya Pradesh, India.

Specific Objective: To mainstream gender concerns and build the social capacities (along with economic self-reliance) of women, so that energy poverty in the region is reduced.

In doing so, the project planned to adopt a two-pronged approach:

- i. Focus on gender mainstreaming and livelihood creation by taking advantage of rural electrification. Through this process, provide trainings and credit support to rural women to establish energy-based enterprises for them or transform their existing non-energy enterprises to energy-base enterprises. It was planned to train these women on specific energy-based ways for income generation that they can use to start business activities. Some examples include energy-based pottery machines, motorized bangle making machines, motorized tailoring and sewing machines. It was also intended to provide business development training to these women that would consist of developing market linkages, marketing, strategy, competitor analysis, financial decision making.
- ii. Providing the women (along with their husbands/family members) information and handholding support to adopt efficient, clean and sustainable energy alternatives in their daily lives (i.e. renewable energy sources). These include method of usage, connection with vendors and maintenance of clean cook stoves, solar panels or water pumping systems in which traditional electricity such as using fuelwood is avoided such that it is environment friendly. This would help the women at household and personal level to reduce household toil by saving the cost they pay for energy consumption and enable them to spend their extra time on economically empowering activities. These efforts are expected to support indirect positive effects on the education, health and nutrition of women and their households (savings, healthy lifestyles, reduced labour and time etc.).

1.4.3. TARGET POPULATION

- ➤ **Direct Target Group: 4,000 women** in the age group of 18-60 from the 9720 SHG members (45%), who are already running their enterprises. While identifying these women entrepreneurs, preference to be given to the most backward communities including scheduled Tribes, Scheduled Castes and to vulnerable & destitute women.
- ➤ Indirect Target Group: 10,000 family members, community and other stakeholders including government officials and PRI members. This would involve, discussions with family members, including husbands to explain the benefits of using energy in their enterprises, prior to starting the project for better buy-in results. Additionally, for the energy-based enterprises, men/husbands to be trained to better understand how they can support in market linkages.

1.4.4. THEMATIC INTERVENTIONS

Thematically, the P2E project facilitates two key areas of interventions among women for household poverty reduction and improving the quality of their lives. They are:

- i. **Promoting Energy Based Enterprises:** The project has focused on the women entrepreneurs to either transform their existing business into energy-based enterprises or learn new skills to establish new energy based-enterprises. Women have also been encouraged to start their individual enterprises by using energy-based modes.
- ii. Adopting efficient, clean and sustainable energy alternatives in their households: The project provides awareness and handholding support to women for adopting clean and sustainable energy alternatives in their daily lives. Women are intended to be provided with the inputs through training programmes and by facilitation to adopt energy-efficient products and practices in their daily lives.

1.4.5. EXPECTED OUTCOME AND OUTPUT

Outcome	Output	Tar	gets and Indicators
Outcome 1: Women have increased productivity and income through energy-based	Output 1.1: Women have increased knowledge and understanding on how to establish/transform to energy	i.	3200 Women have increased knowledge and understanding on how to establish/transform to energy-efficient enterprise.
enterprises.	establish transform to energy efficient enterprise. Output 1.2: Women have increased knowledge on financial management.	ii.	3200 Women are more aware of energy poverty measures and are willing to adopt energy based enterprises.
	Output 1.3: Women have increased access to credit facilities.	iii.	2800 Women have increased knowledge on financial management.

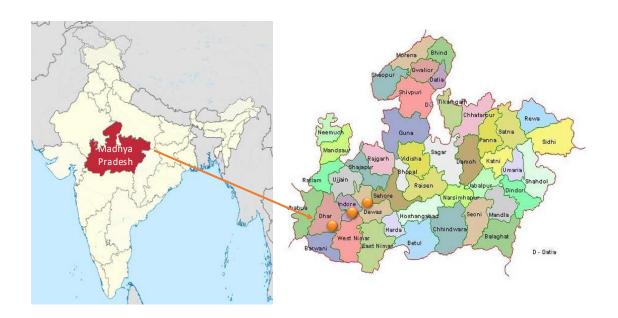
		iv.	3200 Women have increased access to credit facilities.
Outcome 2: Women have adopted efficient, clean and sustainable energy alternatives in the household.	Output 2.1: Women are aware of efficient, clean and sustainable alternatives for the household. Output 2.2: Women and family members are more aware of energy poverty measures and are willing to adopt energy-based enterprises and household appliances.	i) ii)	4000 Women are aware of efficient, clean and sustainable alternatives for the household. 3200 Women and family members are more aware of clean energy fuel and are willing to adopt clean energy and energy based household appliances.

1.4.6. GEOGRAPHICAL COVERAGE

The project has been implemented in three adjacent districts of Madhya Pradesh, viz., Dhar, Indore and Dewas as per the following details:

Country – India State – Madhya Pradesh Districts - Dewas, Dhar and Indore

HIH presence in these districts goes prior to the project where it has been working with women through social mobilization, integrated programme of training and capacity building in SHG formation, group management, financial literacy and business education by leveraging technology to enhance entrepreneurial development. The operational map of the project is depicted below:



The following table provides details regarding the geographical coverage of the project:

Table 1: Geographical Coverage of the project

Name of the	Coverage Details in Rural Areas			Coverage details in the urban Area			Total No. Members	
District	Name of the Block	No. GPs	No. of Villages	No. of members	Name of the Municipality	No. Of wards	No. of members	(Rural+ Urban)
Dewas	Chapda	11	13	296	Hatpipaliya	3	58	354
	Dewas	4	4	151	Dewas	6	184	335
	Khategaon	11	11	172	Khategaon, Kannod, Loharda, Satwas	6	315	487
	Sonkacha	6	6	180	Sonkatch, Bhaurasa, Pipalrawan	4	116	296
	Tonkkhurd	11	11	318	Tonkkhurd	2	54	372
Dhar	Dhar	6	6	193	Dhar	13	195	388
	Badnawar	12	14	391	Badnawar	2	77	468
	Nalcha	14	16	289	Mandav	6	177	466
	Umarban	13	14	240		0	0	240
Indore	Mahow	10	9	172	Mhowgaon	1	15	187
	Sanwer	12	12	317	Sanwer	3	39	356
	Depalpur	16	20	456	Depalpur	1	8	464
Total	12 Blocks	126	136	3175		47	1238	4413

1.5. THE END-LINE EVALUATION (TERMS OF REFERENCE)

The "Power To Empower" (P2E) project (referred to as "project" in this document) completed its approved implementation period of three years on the 31st July 2022. HIH, India (the implementing organisation) and HIH, Sweden (the funding organisation) had planned to carry out an external evaluation at this juncture of the project to review the relevance and effectiveness of the project as well as achievements and lessons learnt. It was also decided to engage an External Consultant/agency to carry out the endline evaluation along with the M&E team of HIH India. The evaluation findings will not only be helpful for HIH India in assessing what was delivered, but also analyze the challenges in determining the necessary steps for the sustainability of results and way forward.

1.5.1. EVALUATION OBJECTIVES

The main purpose of the evaluation is to assess the results achieved, and specific and overall impact of the project in the lives of targeted beneficiaries (and their families), as against the stated goals and activities.

The specific objectives of the end-line evaluation are as follows:

- i. To conduct an assessment of the achievements of the Goal and Objectives of the Project against the specified targets.
- ii. To assess the overall outcomes of the project in terms of the effectiveness of the interventions i.e. use of clean energy in business and as cooking fuel.
- iii. To assess any spillover impact of the project in the Communities even if this was not the overarching goal of the project.
- iv. To identify the intended and unintended outcomes, best practices and lessons learnt that arose during project implementation.
- v. To assess the challenges that were encountered during the project implementation and ways in which they were addressed.
- vi. To provide recommendations for sustainability and way forward for the project.

1.5.2. EXPECTED RESULTS OF THE END – LINE EVALUATION

The current endline evaluation is intended to be forward looking and is expected to capture effectively the best practices and lessons learnt; and inform on the nature and extent of the effect of the support on various stakeholders. It will follow the OECD/DAC's Quality Standards and will answer the questions as stated in the agreed ToR with respect to the REESI (Relevance, Effectiveness, Efficiency, Impact, Sustainability) criteria of project progress.

The emphasis of the endline evaluation is also on capturing the equity criteria to assess the extent to which the interventions accessed by different social groups, specifically the vulnerable communities. The findings and recommendations of the evaluation will also form the basis to sustain the results and determine the way forward. Please refer to **Annexure I** for a copy of the ToR as agreed upon by HIH India and the external evaluator.

1.5.3. ORGANISING THE REPORT

This report is organised in four sections. This, the first one is introductory in nature, describing the background of the project, its goals and objectives, the terms of reference for the external evaluation, and the process followed by the evaluation Team. The following section details out the methodology adopted in carrying out the study. The third section share evaluation findings on the basis of the suggested criteria and related questions. Few broad issues and related recommendations are discussed in the fourth and concluding section.

2. METHODOLOGY ADOPTED

The methodology adopted for the evaluation was participatory in nature using both qualitative and quantitative techniques and has included all stakeholders of the project such as HIH India staff (at Indore), Community workers, Women beneficiaries in the villages covered by the project, Panchayat members, Vendors and local NGO collaborators as well as other people directly or indirectly involved in development and implementation of the project.

2.1. STUDY DESIGN

2.1.1. METHODS USED

Specific methods used for collection of data and information are as follows:

- i. **Review of documents** Review of available project documents shared by HIH India proposal, Midline Evaluation Report, Annual Review Reports, and other relevant literature in the subject area.
- ii. **Briefing meeting** with Dr. Madhu Saran, President, HIH India as well as the Project Manager of the project and Senior Manager M&E.
- iii. **Briefing meeting and Self –Evaluation Exercise** by the all project staff including the M&E team at HIH Indore Office conducted through group discussion and presentation.
- iv. **Review of Survey Questionnaire** and other Tools developed for the purpose by the M&E Team of HIH India.
- v. **Pilot Survey and review** to understand any gaps in the process of information/data collection and addressing the same.
- vi. **Personal Interviews (Survey)** with the target group members i.e. with the confidence level of 95% and 5% margin of error, 395 (rounding off 400) respondents will be covered across the 12 operational blocks. A strategic random sampling method were followed to identify respondents for interview.
- vii. Focus Group Discussions (FGDs): 9 FGDs (3 in Dhar district + 3 in Dewas district + 3 in Indore district) conducted covering 105 SHG women Entrepreneurs. They were selected by the M & E Team of HIH India on the basis of their performance, proactive initiatives, emergence of leadership and enterprise development. They were categorized/graded on the basis of the above mentioned criteria and a mix of them were considered for visit and review by the evaluation team.
- viii. **4 KIIs (Semi-structured Interviews)** were conducted with representatives of key stakeholders from the PRI members (Sarpanch), Community level service providers (Bank Mitra etc.), Vendor, collaborating NGOs and other stakeholders etc.
- ix. **4 Case Studies** through detailed interview with selected women entrepreneurs using power-based enterprises.

- x. **Triangulation of data and information:** The data and information gathered from stakeholders was compared with MIS and other secondary for verification purposes. Data triangulation has been used to verify findings from different sources and methods.
- xi. **Observations on the project activities, and results** perceived by the target communities.
- xii. Besides formal meetings, several **informal meetings** were also organised with HIH staff members and stakeholders to collect required information.
- xiii. Relevant documents were also referred, and feedback gathered from all concerned actors.

2.1.2. STUDY TOOLS/INSTRUMENTS

In order to collect the data/information from the identified respondent groups using the above mentioned methods, different tools were developed based on the scope and requirements. The literature review of earlier studies, including baseline, LFA and other project documents, remained the basis in the development of the tool.

2.1.2.1. SURVEY QUESTIONAIRE - PERSONAL INTERVIEW - PRIMARY RESPONDENT

The survey tool for the primary respondents (SHG women Entrepreneur) was prepared to assess different indicators related to the following components:

- i. Socio-demographic profile of the respondent,
- ii. Training and Access to Credit
- iii. Energy-Based Entrepreneurship
- iv. Household wellbeing & Cooking energy
- v. Covid-19 Impact, Response and Preparedness.

Steps followed for Data Collection from SHG women entrepreneurs:

The survey tool was developed and finalized in consultation with HIH India and HIH Sweden. The finalized survey tool was then translated to Hindi and converted into a Digital-Form software app and uploaded into a mobile for information collection.

- Training of Survey Team was conducted to develop a good understanding on the questionnaire, background to each question, ethics etc towards collecting genuine and quality responses.
- ii. Field testing of the final tool was done.
- iii. Necessary revisions were done after field testing for the final data collection.
- iv. The survey data was collected through the mobile app with a GPS facility and sync all response forms offline and online into one single excel sheet.
- v. Monitoring of data collection was ensured through photo documentation and real-time data updation in the survey app.
- vi. Quality in data collection is partially addressed through the conversion of a paper pen tool into an online tablet tool. Additionally, the M&E team reviewed the data at the end of each field day to ensure data quality.

2.1.2.2. FOCUS GROUP DISCUSSIONS (FGDs) AND KEY INFORMANT INTERVIEWS (KIIs)

While the Survey Tool primarily aimed at collecting quantitative data, the FGD and KII tools were developed to collect qualitative information with more insight into the social process.

The Tools for conducting the FGDs and KIIs were developed keeping in mind the evaluation indicators as well the target community. Specific guiding questions were developed to encourage participatory discussions in collecting the required information. Questions are open-ended, with the aim of stimulating an informal discussion and assessing views of the target community in more detail than is possible through a survey.

Steps followed for conducting the FGDs:

- i. The Tool was developed and finalized in consultation with HIH India and HIH Sweden.
- ii. Considering the profile of the target community, the expected time for undertaking the FGD was kept in mind and the questions were set accordingly.
- iii. The target audience for the FGDs comprised of women entrepreneurs (project beneficiaries) shortlisted to use energy in enterprises and/or cooking mediums under the project.
- iv. Care was also taken to make the size of the group manageable (5-10 members) to collect appropriate information.
- v. The FGDs were facilitated by the External Evaluator and extensive notes of each FGD were taken which was further analysed and triangulated.

Steps followed for conducting the KIIs:

- i. The KII Tool was developed and finalized in consultation with HIH India and HIH Sweden.
- ii. Few open ended guiding questions were set keeping in mind the profile of the stakeholders.
- iii. The target audience for the KII comprised of external stakeholders associated/involved or have contributed to the project results. They were identified by the project staff.
- iv. The KIIs were facilitated by the External Evaluator and extensive notes of each KII were taken which was further analysed and triangulated.

Please refer to *Annexure II*, for the Tools i.e., a) the Survey questionnaire, b) FGD Tool and c) KII Tool, developed and used in conducting the endline evaluation.

2.1.3. SAMPLING AND DATA COLLECTION

➤ Considering the large beneficiary base of the project, the **evaluation has adopted a** 'sample' study method (Representative sampling method) to collect required data and information. Information collected from the selected samples are being analysed and interpreted to arrive at the findings and observations of the evaluation.

The following table provides detail information on the number of respondents covered through use of different tools and methods to collect the required data and information.

Table 2: Sample Size covered for collection of data/information

S.N.	Method	No. of Survey/FGDs/KIIs conducted	Respondents Covered	Conducted by
1	Survey (Personal Interviews)	400 Interviews across 12 blocks of 3 districts	400 (minimum 30 members each block)	M&E team of HIH India
2	Focus Group Discussions (FGD)	9 FGDs across 12 blocks of 3 districts	105 women entrepreneurs (15+13+3+13+10+20+5+12 +14)	External Evaluator
3	Key Informant Interviews (KII) (Semi-structured Interviews)	4 Interviews (KIIs) across 12 blocks of 3 districts	4 Key stakeholders (PRI member, Bank Mitra, Vendor and collaborating NGO)	External Evaluator
4	Case Studies	4 Case studies across the 3 Districts	4 women Entrepreneurs (micro entrepreneurs)	External Evaluator
	Total		513 Respondents	

Please refer to *Annexure III*, for visit schedule of the Evaluation Team with details of meetings and interviews carried out with different stakeholders of the project.

2.1.4. SOURCES OF DATA/INFORMATION COLLECTION

Using the above stated Tools and Methods, the required information/data were collected mainly from two sources:

i. **Primary source:** Through interaction and discussion with the project team at HIH India, Delhi and HIH India Indore level, the women beneficiaries (women entrepreneurs), and other key stakeholders such as PRI members, service providers at the village level (like Bank Mitra etc.), vendors, NGO collaborators at the Block and District level.

ii. Secondary source:

i. At HIH India level

- Documents related to the project e.g., project proposal, Midline Evaluation Report, LFA, etc.
- Annual progress reports and Annual Action Plans
- Training Materials and Publications

b) At Community Level

- ➤ Information on village/Block
- > SHG records
- Documents related to enterprise and access to credit

2.1.5. DE-BRIEFING WITH HIH INDIA TEAM

At the end of the evaluation process, a debriefing meeting was organised by the evaluation team with selected members of the project team of HIH India, Indore on the 9th September 2022. Subsequently another de-briefing meeting (online) was organised by the External evaluator with Ms. Madhu Saran on the 19th September 2022. During the meeting/s, the key findings of the evaluation and suggested recommendations were presented to the team and feedback received.

3. ANALYSIS OF FINDINGS

3.1. PROLOGUE

The process followed by the evaluation team has already been enumerated in the previous section. As it is clear from the process as well as the visit schedule, the evaluation followed a mixed method of 'sampling' technique as part of the study methodology to collect required information. Hence, the findings and results are based on 'estimation', which refers to a process by which inferences about the entire project is being made, based on information obtained from the 'sample' sites visited and persons interviewed.

3.2. PRESENTATION OF FINDINGS

The ToR is the base document to analyse the findings and observations as presented in this chapter. The ToR enlists five key parameters (REESI) while following the OECD/DAC's Quality Standards in outlining the scope of the evaluation viz., a) Relevance, b) Effectiveness, c) Efficiency, d) Impact, e) Sustainability. Under each of these parameters, the ToR enlists a set of potential key questions in line with the objectives of the study as specific tasks for assessment by the evaluation. (c.f. Section7 of the Annexed ToR).

Hence, the evaluator has referred to the specific questions related to the above mentioned parameters; and the findings and recommendations presented below are based on the analysis of each of these areas, which are substantiated by both quantitative and qualitative data/information. However, some of the questions could not be considered because they seem to be repetitive and/or more or less, refers to the same indicator, and/or the evaluators did not get the opportunity to gather adequate information on the same.

Further, considering that the intervention rests on two key programme components, viz., **Promoting Energy Based Enterprises and Adopting efficient, clean and sustainable energy alternatives in their households**, the evaluation have referred to each of these programme components and have discussed them on the basis of above mentioned parameters and the corresponding sub-sections.

Additionally, the evaluation has taken into consideration the equity criteria in assessing the extent to which the interventions accessed by different social groups, specifically the vulnerable communities.

In doing these, the Mid-line Report (ref. Annexure IV) has been constantly referred to analyse the change with respect to the different programme components and indicators.

3.3. ANALYSIS OF FINDINGS

3.3.1. RELEVANCE - PROBLEMS AND NEEDS

The evaluation has tried to analyse the "relevance" of the programme on the basis of the following grounds in relation to the specific questions (as stated in the ToR) to arrive at the findings.

- i. The relevance of the project in relation to the geographical uniqueness/diversity of the state and the socio-economic and political needs (and demands) of the focused community
- ii. The relevance of the project with respect to the key programme components i.e., promoting energy-based enterprise and adopting efficient, clean and sustainable energy alternatives in their households in addressing the issue of energy poverty.
- iii. Relevance of the project activities and outputs in realizing the intended impact
- iv. Relevance and appropriateness of the present model

Each of them are analysed below:

3.3.1.1. RELEVANCE OF THE PROJECT IN RELATION TO THE CONTEXT AND SOCIO-ECONOMIC NEEDS OF THE FOCUSED COMMUNITY

The relevance of the project in relation to the geographical uniqueness/diversity of the state and the socio-economic and political needs (and demands) of the focused community

Madhya Pradesh is one of the least developed and vulnerable state in India with a high share of the population living in extreme poverty. This poverty is characterized by a lack of means to create sustainable livelihoods, high illiteracy rates, and a lack of access to basic rights. Furthermore, the state also has a large tribal and scheduled caste population who has limited access to education, health and other resources. As a result, early marriages, poor health of children (malnourishment) and mothers, high dropouts from school leading to poor employable skills are quite predominant within the community.

Like in other parts of India, women in rural Madhya Pradesh too remain deprived and marginalized with limited participation in the decision-making process of the household or in the development process of the society. Despite the constitutional guarantee for equal rights and privileges for men and women, rural women continue to be at the receiving end of economic social, cultural and political marginalization. Women from the SC and ST community face 'double discrimination' of gender and caste because of their social status.

Despite several focused schemes and programmes by government and NGOs, the gaps are still large. Hence interventions by HIH India, particularly the P2E project, seems strategic and holds lot of relevance vis-a-vis the challenges faced by the focused communities (i.e., women and particularly women of these marginalized communities (SC, ST, and OBC) within the state.

More specifically, the project has taken great care in identifying the intervention districts (Dewas, Dhar and Indore) with low socio-economic index. Not only that 40% of the population of these districts lives below poverty line, the sex ratio (less than 950 for Indore and Dewas) of these districts are also low as compared to other districts of the State. The SC and ST population of these districts are also relatively high as indicated in the table below. Indore and Dewas districts also have a high minority population that stands at 12. 67% and 11.14% respectively, while the same stands at

5.32% for Dhar¹⁰. Additionally, considering that HIH India has already prepared the base in these districts, interventions by the project stands particularly relevant in terms of high added value.

Table 3: Caste-wise information on the population of the Districts

SI. No.	District	Population		Scheduled Tribe (ST)	Sex ratio	Literacy	Density
1	Indore	3,276,697	16.64%	6.64%	928	80.87 %	841
2	Dhar	2,185,793	6.65%	55.94%	964	59.00 %	268
3	Dewas	1,563,715	18.67%	17.44%	942	69.35 %	223

Source: https://www.census2011.co.in/census/state/districtlist/madhya+pradesh.html

Further, within these three districts, HIH India has strategically intervened in the blocks and villages with low socio-economic indicators and high concentration of SC, ST, OBC and minority communities. Hence, there is absolutely no debate on the relevance of the project with respect to the socio-economic context of the geography and that of the target community; more specifically because the project is a value addition to the interventions by HIH India. Findings of the quantitative analysis of data collected regarding demographic profile of respondents too corroborates the same.

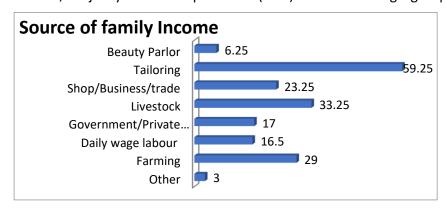
Findings of the quantitative Data analysis (Demographic profile of respondents): As it is evident

Name of the	No. of Respondents covered			
district	Number	%		
Dewas	180	45		
Dhar	149	37.25		
Indore	71	17.75		
	400	100		

from the table below, out of the total 400 respondents covered as part of the survey process, about 45% are from Dewas, 37.25% from Dhar and 17.75% from Indore, which in in proportion to the total members covered (Ref. to Table 1) in the three districts respectively.

Table 4- District-wise coverage of respondents

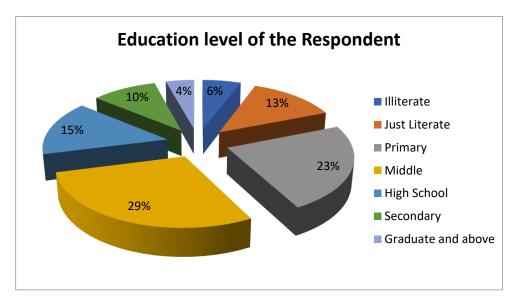
Further, majority of the respondents (96%) were in the age group of 18 to 49 years. With an



average family size of 5 and average earning members of 2.4, the average family income of the household covered by the survey was found to Rs. 16353, which is clearly an increase (72% 个) from the baseline data where the monthly family income was Rs. 9460. Also while many of the respondents

¹⁰ http://muslim-census.com/2021/02/muslim-population-in-districts-of-madhya-pradesh/

covered were reported to have multiple sources of income, a large percentage of them were found to have Tailoring and Livestock as the primary source of livelihood.



With regard to the education level of the respondents, a large percentage of women (about 28.75%) were found to have educated upto the middle level. This was followed by primary level of education level, which recorded 23.25%, as shown in the chart below.

3.3.1.2. RELEVANCE WITH RESPECT TO PROGRAMME COMPONENTS

The relevance of the project with respect to the key programme components i.e., promoting energy-based enterprise and adopting efficient, clean and sustainable energy alternatives in their households – in addressing the issue of energy poverty.

Poverty is defined as the absence of choices and opportunities required to lead a life of dignity. Among these opportunities is clean and modern energy. The United Nations Development Program (UNDP) defines 'energy poverty' as the absence of modern cooking fuel, and of electric light to carry out basic activities after sundown. Multilateral organisations like the International Energy Agency (IEA) and the World Bank recognizes energy accessibility as a crucial driver of social, economic and human development, as has been recognized by. Renowned economist and Nobel laureate Amartya Sen has argued that 'lack of access to energy not only deprives a person of basic necessities (heat, light, cooking fuel) but also strips them of options for a holistic development'.

Despite the fact energy is the engine of civilization, access to adequate and affordable sources is not equally distributed on the planet. Its presence is strongly and constantly intertwined with economic and social development. As a result, poorer countries are the ones usually equipped with the worst energy services, which contribute to malnourishment, unhealthy living conditions and limited access to education and employment.

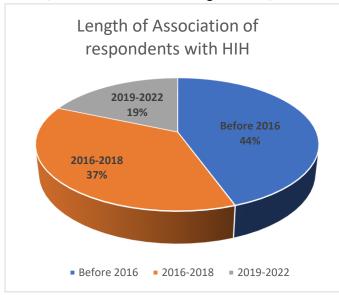
Energy poverty is a serious concern for India. Although India has made progress in electrifying households through schemes such as Pradhan Mantri Ujjwala Yojna (PMUY), it is still far from achieving Goal 7 of the Sustainable Development Goals (SDGs)—i.e., "Ensure access to affordable,

reliable, sustainable and modern energy for all" and there are still around 239 million people across India who have no access to electricity. The 2011 Census of India found that nearly 87 percent of the rural population remain dependent on solid fuels for cooking, and 580 million people across the country will remain without access to clean cooking fuels in 2030.¹¹

While the societal and cultural norms endow the primary responsibility of securing food and energy to women, it is them who are most affected by the lack of access to clean and modern energy (energy poverty). Some 400 million people in India, of whom 90 percent are women, rely on solid biomass and are exposed to detrimental health conditions that manifest as respiratory and pulmonary diseases, or other disorders like blurred vision. It is estimated that one of every four (25 percent) of the annual 4.3 million global premature deaths caused by Household Air Pollution (HAP) occur in India. Women also have poor access to technology and resources, due to societal constraints. This contributes to women's time poverty, ill health, and increased level of drudgery, leaving them at the losing end of economic and social development.

Recognizing the impact of energy poverty on India's rural women, the contextual realities of the intervention state and operational districts, and with the aim to empower the rural women, the project has worked on two distinct programme strategies and approaches (a) Promoting Energy Based Enterprises and b) Adopting efficient, clean and sustainable energy alternatives in their households), which holds great relevance to the context as well as to the needs of the target communities.

On one hand, the project **promotes energy-based enterprises** through providing skill training, and access to credit, along with marketing support in contributing to economic empowerment of rural women; it has been sensitising women, on the other hand, **to adopt efficient, clean and**



sustainable energy alternatives in their households in contributing to their social empowerment. In doing so, the project works along the understanding that clean and modern energy can bridge the energy poverty gap and empower rural women, improves their health, and improves their capacity for climate adaptation and mitigation.

The relevance of the programme strategy further intensifies because of the complementary nature of the P2E project. Previous interventions by HIH in organizing and empowering rural women

https://www.orfonline.org/research/understanding-the-gender-dimensions-of-energy-poverty/

¹¹ 'Understanding the Gender Dimensions of Energy Poverty' by C. Pavithra - https://www.orfonline.org/research/understanding-the-gender-dimensions-of-energy-poverty/
¹² 'Understanding the Gender Dimensions of Energy Poverty' by C. Pavithra -

in the operational districts of Madhya Pradesh along with its solid base on the ground, has not only eased the process of introducing the concept of clean energy amongst the target community, but also has added substantial value to their socio-economic empowerment. Their previous association with HIH has further smooth out the process of implementation because the project had the advantage of playing on a ground that was already prepared.

The analysis of quantitative data too substantiates this finding as around 81% of respondent beneficiaries are found to have associated with HIH for an average period of 6 years. As it is evident from the pie diagram, about 44% respondents' women shared that their association with HIH can be traced beyond 2016, while 37% shared that they got associated with HIH programmes during the period 2016-18. And, it was only 19% of women members, who got associated with HIH during the project period 2019-2022.

3.3.1.3. RELEVANCE OF THE PROJECT WITH RESPECT TO ACTIVITIES AND OUTPUT

Relevance of the project activities and outputs in realizing the intended impact

The activities undertaken to achieve the project objectives are also found to be quite appropriate keeping in mind the context as well as needs and demands of the communities.

Different activities undertaken as part of the project are as follows:

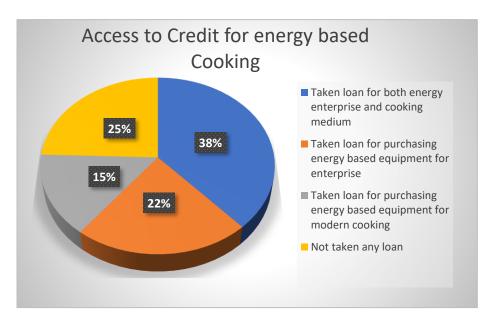
- i. **Development of Master Trainers to train women entrepreneurs:** Through ToT methods on topics related to, enterprise development, energy based entrepreneurship, financial literacy, energy efficient ways of living- practices and products etc.
- ii. **Skill development training for women entrepreneurs:** Basic and/or advance level skill training on the respective trade provided to women entrepreneurs who want to start /upscale their enterprises focusing on ways to make their enterprises energy efficient as well as making it economically most viable. The skill training also included training on the technicality of using energy- based devices.
- iii. **Technical Training in Energy based Entrepreneurship**: This includes training on Time management, Reduction of Drudgery, sources of Credit, Market linkages, financial accounting, and monitoring of results for more income generation.
- iv. **Promoting Energy based enterprises:** In promoting new or up-gradation of energy-based enterprises among the project beneficiaries, the project has promoted more than 20 types of energy-based enterprises, such as apparel, tailoring, dairy business, agriculture related, beauty parlours, petty shop, flour mills, tapioca chips (papdam); incense sticks manufacturing etc.
- v. **Facilitating women with credit support for Energy-based enterprise/ product asset:** The project also facilitated credit support to enable the women entrepreneurs expand their enterprises like dairy, agriculture, apparel, petty shops, spices grinding, etc.
- vi. Support to Women by creating Business Development Service (BDS) providers: The BDS team, comprising members from the existing SHGs, will be trained to create linkages between the entrepreneur's trainee and members in the value chain (traders, equipment suppliers, manufacturers, distributers, financiers and micro-finance institutions) and monitor post-training enterprise progress and development and provide on-going mentoring and support.
- vii. Sensitization Programs (to switch over to energy-based enterprises and energy efficient

cooking methods): This includes advantages of clean cooking energy in one's everyday lives, various modern cooking mediums like the use of liquid petroleum gas (LPG) cylinders, electric stoves, induction cooking stoves, electric heaters and energy saving pressure cookers/ovens etc., saving time, drudgery reduction, and improvement in health status due to the usage of energy-efficient cooking methods as well as the do and don'ts of using the products.

- viii. Training and Handholding support for adopting efficient, clean and sustainable energy alternatives in their daily lives: The project organised training programmes for women along with their husbands /family members to make them aware about the products and practices for living in energy efficient ways. Adequate handholding support was also provided by facilitating access to energy efficient products to improve the quality of their lives.
- ix. Facilitating support to connect Women with vendors for supply of bio cook stoves and solar cook stoves

In the given context and keeping in mind the objectives of the project, the **above activities** have **remained extremely relevant in developing energy based enterprise amongst** the rural women as well as **in promoting energy efficient products**, such as electric cooking stoves as well LPG towards ensuring economic empowerment of women and in addressing the 'energy poverty' within the community.

For energy based enterprise development, the **project has strategically identified women who are marginalized a**nd are already engaged in economic activities (by being part of HIH programmes) or those who are in the process of building one. The set of activities planned and undertaken as part of this component clearly complements underlying objectives of empowering women and also have set the mechanisms to sustain them. The **sensitization activities in this regard have remained particularly relevant** in building greater understanding amongst the community about the advantages of using energy based products in their business and hence to establish/shift to energy based enterprises. **"More output within the given input"** has been clearly emphasized in these sensitization activities.



The other set of activities related 'adoption of energy efficient, clean and sustainable energy alternatives in their households' too holds lot of relevance in the given context. Recognising that 'cooking' has been an inherent responsibility of women in the rural community and amount of time and energy women devote to the work with use of traditional cooking methods, the **project has focussed mostly on promotion of energy efficient cooking methods** as its key activities.

Further recognising that there have been several efforts by the government (through Ujjala Yojana¹³) to provide cooking gas connections to rural households, the **project has strategically promoted electric cooking method as an alternative to promote energy efficient cooking**. The relevance of the action is also apparent from the findings of the quantitative data, which depicts that while **93.75%** (375 respondents out of 400) attended the training programme on use of energy efficient cooking, around 53% women have taken loan to purchase equipment for modern cooking.

3.3.1.4. RELEVANCE OF THE PROJECT MODEL

Relevance and Appropriateness of the Present Model

Fundamentally, HIH India follow a SHG model of organizing women and building their capacities towards building community based organisations and building social capital. However, in this project, HIH India has followed a 'value-added model' keeping the SHGs as its base. Hence, organizing women and building community based organisations is not at its core, rather the P2E project has made targeted interventions and investments with the aim to further strengthen these CBOs through building their capacities and ultimately, in empowering the rural poor women. In this direction, the P2E project has focused on a distinct theme of 'energy poverty' and through addressing them intends to contribute to the overall socio-economic empowerment of its target community.

In doing so, the project has worked on two key programme components. With respect to programme component 1 – **Promoting Energy based enterprises**; while the SHGs in the operational villages have remained the base for the project for all sensitization/awareness efforts, the project beneficiaries with respect to 'development of energy based enterprises' have been strategically identified (from within these SHGs) with a focus on women with ongoing enterprises or those who are willing to venture into energy based enterprises. Once these women members (target beneficiaries) are identified, the focus has been on these specific group rather than the entire group. In doing so, the project has followed a **targeted intervention approach** through and all capacity building efforts and related support with regard to energy based enterprise development have been directed to these group of women only.

However, with regard to programme component 2 of the project i.e., **Adopting efficient, clean and sustainable energy alternatives in their households**, the approach has remained rather inclusive, and the focus has been on the entire group of SHG members. All capacity building initiatives and support related to the programme component are being directed to the entire group of women.

¹³ Pradhan Mantri Ujjwala Yojana was launched by Prime Minister of India Narendra Modi on 1 May 2016 to distribute 50 million LPG connections to women of Below Poverty Line families.

3.3.1.5. REFLECTION - RELEVANCE

- ➢ Given the socio-economic profile of the target community, the project has strategically identified the programme components Promoting Energy Based Enterprises and Adopting efficient, clean and sustainable energy alternatives in their households, which not only complements the ongoing programmes of HIH, but also have added enormous value to them in contributing to the socio-economic empowerment of poor rural women.
- Considering the global and local context vis-à-vis energy poverty amongst rural women in the operational districts, the presence and interventions of HIH in the operational districts, the programme components of promoting energy-based enterprises and support for rural electrification, promotion of more modern cooking fuels, and encouraging greater adoption of improved biomass stoves, hold significant relevance in reducing energy poverty in the area.
- The activities undertaken by the project are quite in sync with the stated needs of the target communities i.e., rural poor women members of Madhya Pradesh and are strategic in addressing the existing gaps in enhancing their socio-economic status through addressing the energy poverty quotient of the community and the region. Further, the activities strategically combine promotion of energy efficient methods in their economic activities and household activities towards achievement of larger objective of empowering women.
- In a context, where there is a 'prepared ground' in terms of organised community, such value-added model with targeted interventions stands extremely relevant in easing the process of intervention and in intensifying the impact.
- Further, in a situation, where the target community has been experiencing 'deprivation of energy' because of their low social status, the model is absolutely relevant as it has worked both as a tactic to address specific problems and issues faced by the focused community, and brings all added ingredients in intensifying the element of community empowerment.

3.3.2. EFFECTIVENESS – ACHIEVEMENT OF PURPOSE

The extent to which the project's results are attained and the specific objectives achieved, or are expected to be achieved.

In analysing the "effectiveness" of the project, the evaluation has taken into consideration the related questions as suggested in the agreed ToR, and has made an effort to discuss them on the basis of the activities undertaken by the project and results achieved towards achievement of its objective.

3.3.2.1. EFFECTIVE UTILIZATION OF TRAINING PROGRAMMES

Effective Utilisation of the Technical Training programmes on energy appliances and tie-up with vendors offered under the Project to create /strengthen the enterprises:

With a view to achieve its expected results, the project has adopted a two-pronged approach:

- i. Focus on gender mainstreaming and livelihood creation/strengthening by taking advantage of rural electrification In order to do this, the project has provided trainings and credit support to rural women to establish energy-based enterprises for them or transform their existing non-energy enterprises to energy-based enterprises such as energy-based pottery machines, motorized bangle making machines, motorized tailoring and sewing machines. Training was also provided in the area of business development which included developing market linkages, marketing, strategy, competitor analysis, financial decision making.
- ii. Providing the women (along with their husbands/family members) information and handholding support to adopt efficient, clean and sustainable energy alternatives in their daily lives (i.e. renewable energy sources). These include method of usage, connection with vendors and maintenance of clean cook stoves, solar panels or water pumping systems in which traditional sources of energy (such as using fuelwood) is avoided to make it environment friendly. This would help the women at household and personal level to reduce household toil by saving the cost they pay for energy consumption and enable them to spend their extra time on economically empowering activities. These efforts are expected to support indirect positive effects on the education, health and nutrition of women and their households (savings, healthy lifestyles, reduced labour and time etc.).

With the above approach, the two key programme components worked on by the project are - **Promoting Energy based enterprises** and **Adopting efficient, clean and sustainable energy alternatives in their households**. As part of the second programme component, the project has primarily focused on energy efficient cooking methods.

- **iii.** Access to Training programmes: The different training programmes undertaken by the project in achieving the expected results with respect to the above two key programme components are:
 - > Technical training in energy-based entrepreneurship
 - > Skill training
 - Financial Literacy- Savings, Household budgeting, Accounting
 - Business development services (BDS training & Market access development)
 - Training on the Use of LPG Biogas/induction /solar stove

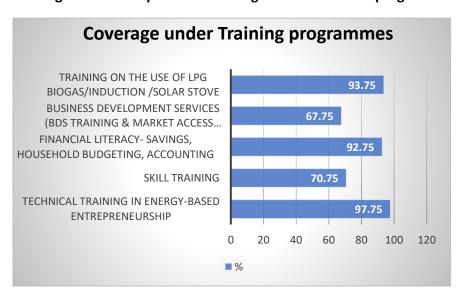
Apart from the training programmes, several sensitization/awareness programme were also organised on energy-based enterprises as well as energy efficient cooking methods, when understanding of the women members about these concepts were built and information provided on advantages of using energy efficient methods.

The project has quite strategically planned and designed the training programmes keeping in mind the needs and demands of the target community so that it helps to build optimum understanding about the concept and its application, and hence ensure maximum participation. It is clear from the following table (Table 5) that demonstrates the number of women members covered under each of these training and sensitisation programmes. As it is evident from the table the project has been able to achieve the set target within the given time period of the project and in some cases it has even overachieved the target.

Table 5: Coverage of beneficiaries under different Training programs

SI no.	Name of the training / sensitisation programme	Project Target	No. of women members covered (by April 2022)
1.	Sensitization programs on energy- based enterprises	4000	4087
2.	Technical training in energy-based entrepreneurship	4000	3860
3.	Skill training	540	527
4.	Financial Literacy- Savings, Household budgeting, Accounting		
5.	Business development services (BDS training & Market access development)		
6.	Sensitization programs about energy efficient cooking methods	4000	4152
7.	Training on the Use of LPG Biogas/induction /solar stove	2000	1940

iv. Analysis of data collected through the quantitative methods too support the findings, which reveals encouraging results in terms of the extent the project has been able to reach out to the target community with its training and sensitisation programmes. Data collected with respect



to coverage of women members under different training programmes organised by the project reveals that out of the total 400 number of respondents covered, about 396 (99%) were found to have attended one or more training and sensitisation programmes organised by the project. Further as can be seen from the chart. more than 90% respondents reported to

have attended the technical training on enterprise development, Financial Literacy and training on use of efficient cooking methods; while about 70% respondents shared that they have attended the training programmes on Business Development services and skill training. Not only that, as many as **80% respondents shared that they have found the training programmes useful** in establishing the energy-based enterprises, understanding the nitty-gritties of business development as well as finding hassle free cooking methods.

- During discussion with the women members, it was also found that apart from the training support, the handholding support and market linkage support provided by HIH staff have been of great help to the women entrepreneurs in establishing and building their enterprise. The training and handholding support not only enhanced their understanding about operating the energy equipment and efficiency, but also increased knowledge and skill about the trade as well in overall management of the business.
- v. Establishment of energy based enterprises: As a result of the Training programmes and other allied support provided by the project, it was found that a good number of women members have been able to either establish energy based enterprises or have converted their existing enterprises into energy-based enterprises. As per the Annual reports of the P2E project, the project has been able to promote a total number of 2961 (92.53%) energy based enterprises by women as against a target of 3200. Out of the total 2961 energy based enterprises, 873 are new enterprises and 2088 are existing enterprises those have been converted from non -energy based to energy based enterprises. In this direction, the most used mode of energy was found to electricity with about 82% of enterprises are run with electricity.

No. Of energy based Enterprises **Project** Achieved by women Target number Total number of women with 3200 2961 energy-based enterprises No. of women launched brand 960 873 new energy efficient enterprises No. of women turned existing 2088 2240 enterprises energy based to enterprises

Table 6: Achievement against Target

It is interesting to note that while a large number of women out of these 2961 numbers are with single enterprises, there are many who have started more than one enterprise. As presented in the pie diagram

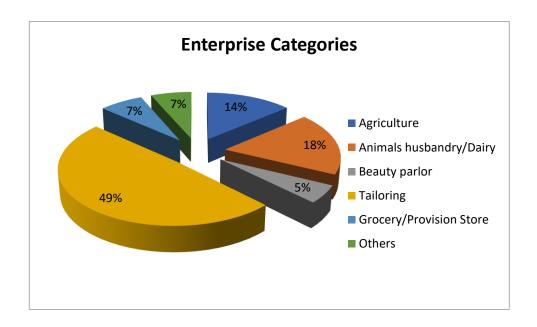
In many cases it was learned that the male members of the family

(particularly husband) of the women entrepreneurs are also supporting them in many ways to establish and run the enterprises. While it has been a conscious strategy, the efforts by the HIH field staff in including the male members of the family (influencer) in the process can not be overlooked.

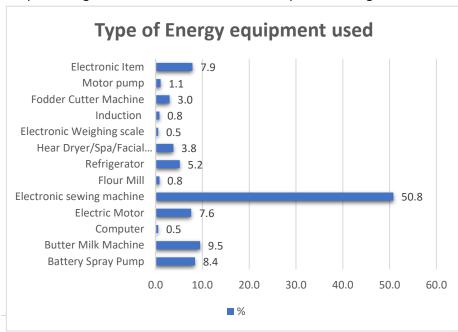
➤ **Key Enterprises established:** Some of the key categories of enterprises established, as part of the project, are – Agriculture and allied activities, Animal husbandry, Beauty Parlor, Dairy, Flour Mill, Tailoring, Petty shops (Grocery/stationary shops), Readymade cloth shop, leaf plates making, bangle making etc. Even though the focus has been on a wide range of categories, the

most visible enterprise was found to tailoring (apparel) and a major percentage of women members were found working on the trade.

The survey data too supports the findings and depicts that about 49% of total women members covered have adopted to tailoring as a trade, which is followed by Agriculture, Animal husbandry and Dairy, as evident from the chart below.



Type of Energy equipment used: In their efforts to establish different types of energy based enterprises, the women members have used different types of energy equipment. Discussion with the women members and observations during the evaluation revealed that the most commonly used energy equipment has been electronic sewing machine, considering that a large percentage of women members have adopted tailoring as a trade. As it is depicted in the chart



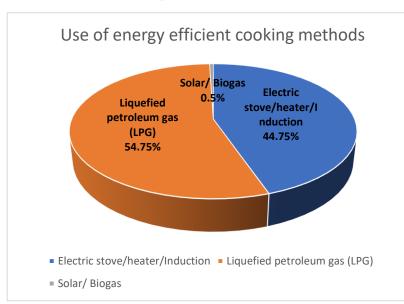
below, from amongst the different types of energy equipment used, electronic sewing machine occupies about 51%, which is followed by Butter mil machine (used in Dairy) which stands at 9.5%. The other important category of equipment found 'electric motor', which is used primarily by women members who have converted their

non-energy based enterprise to energy based enterprise. For example, use of electric motors in manually operated sewing machines.

vi. Adoption of clean and energy efficient cooking method: The other major area of intervention by the project has been promoting use of clean and energy efficient cooking methods. As has been explained in the earlier sections, in doing so, the project has organised several sensitization programmes on energy efficient cooking methods and have also provided training on the Use of LPG/Biogas/induction /solar stove. Additionally, the project has also facilitated tie ups of the women members with vendors so that procurement can be easier, economical and hassle free. However, it was gathered during the evaluation process that the focus of the project in this direction primarily has been promotion of electric induction stove. This could be because there have been parallel efforts by the government to promote clean and efficient cooking energy in these villages through Pradhan Mantri Ujjwala Yojana.

During discussion with the women members, it was found that a good number of them have received the LPG connection under the Pradhan Mantri Ujjwala Yojana. Analysis of quantitative data collected reveals that about 24% have received the LPG connection through the Ujjwala scheme and the remaining 74% respondents have procured them out of the scheme. The project has not only made women aware of this scheme, but also supported them in acquiring the LPG connection.

As a result of these efforts, it was found that a substantial number of women members have

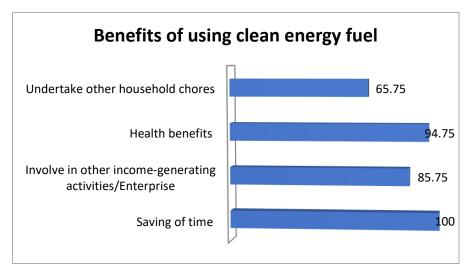


adopted to energy efficient cooking methods through use of electric stoves (Induction stoves) and LPG gas stoves as their primary cooking method. Data collected as part of the quantitative evaluation shows while about 55% use LPG gas as the primary fuel for cooking, about 45% use electric Induction stoves primarily for cooking. Further 49% respondents shared that they use LPG gas as the alternative cooking

fuel, while 46% use electric induction stove as an alternative cooking method. This led to the finding that a large percentage of women members have adopted to clean and efficient energy for cooking purpose. The same was shared by the women members during the FGDs in the villages.

It was also gathered that for both modes of energy efficient cooking, the women members have been linked to either the Common Service Centre (CSC)¹⁴ or with the nearest distributor/ agency or to the nearby retail shop.

In this direction, the project has capacitated selected women members (with grocery/petty shops) through hand holding support to become a local vendor for electric induction stoves. They have been linked with nearby agency to procure the induction stoves and sell them to the women members in their village while keeping a margin in the selling price. The strategy has not only helped enhancing income of the women entrepreneurs (with petty shops), but also facilitated easy procurement of the induction stove for other women members as well as local community in the village.



Benefits of clean and energy efficient cooking methods: During discussion with the women members, it was found that most of them are happy with the modern cooking methods and realise the benefits of using them. For example – one woman member shared that while I spent very minimal electricity, the

cooking time too gets reduced with use of electric induction stove.

The finding was substantiated with the quantitative findings too, where about **100%** respondents (as shown in the bar diagram) said that it saves a lot of their cooking time, which they use in undertaking other household chores (66%) and/or get involved in other income generating activities (86%). Though the evaluation has its limitations in scientifically determining the health benefits of using the energy efficient cooking methods, but use of LPG or electric induction stoves as cooking method certainly have reduced the drudgery involved in traditional method of cooking.

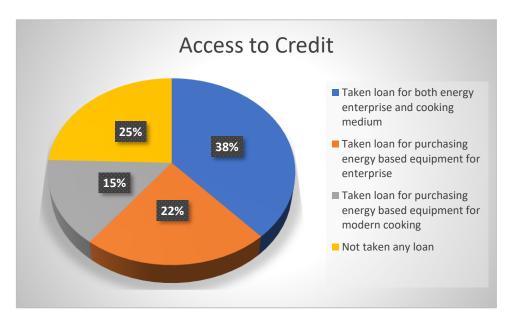
¹⁴ Common Service Centres (CSCs) are IT enable front-end delivery points for Government, private and social sector services for delivering Government of India e-Services to rural and remote locations where availability of computers and Internet was negligible or mostly absent. A CSC is managed by Local unemployed, educated youth providing opportunities for direct and indirect employment.

3.3.2.2. FACILITATING ACCESS TO CREDIT

Facilitating access to credit for establishing energy-based enterprises and/or adoption of energy efficient cooking methods:

In addition to the training and handholding support, the project has also facilitated credit support for its target community through linking them to financial institutions. As was found during interaction with the women members, the credit support actually turned out to be handy in establishing their enterprises and/or in shifting to energy efficient cooking modes.

Analysis of responses from the sample data depicts that as a result of the support provided by the project, about 75.5% women members have had access to credit and have received loan either to purchase equipment for their energy-based enterprises (22.2%) or to purse energy-based cooking equipment (15%) or for both (38.25%).



i. Source of loan: During discussion with women members in the villages, it was found that apart from taking loan from their respective SHGs, many of them have received loan from Belstar¹⁵ (Belstar Micro finance Limited). Belstar being a group organisation of HIH India, seeking loan from Belstar was found to be relatively easier and hassle free for them than any other financial institutions. Analysis of quantitative data too substantiates the finding. Out of the 400 respondents interviewed for the evaluation, 42.75% were found to have taken loan from their SHGs and 41.25% have received loan from Belstar to establish their energy based enterprises and/or adopting clean and efficient cooking methods. Only 11% respondents found to have accessed loan from banks. Nealy one-fourth of the respondents were found to have not taken loan from anywhere.

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¹⁵ Belstar Microfinance Limited (Belstar) is a Non-Banking Finance Company (NBFC) and a subsidiary of Muthoot Finance Limited. It is one of the Group organisations of Hand in Hand India. Belstar pursues a double bottom line focusing on both financial performance and social performance with the assistance of Hand in Hand India, alleviating poverty and pursuing community development.

ii. Amount of loan: The amount of loan too varies from Rs. 5,000 to Rs. 50,000. In some cases (as per the quantitative data analysis about 11%) it is even more than Rs. 50,000. It was also learnt from the women members that while the rate of interest paid by them on the loan is generally 2% if taken from SHGs, it is 24% in case of Belstar loan with a repayment tenure upto 12 months. The women members also shared that with Belstar loan, 1% of the loan amount is charged as processing fee. But at the same time, they also one month of moratorium period.

3.3.2.3. ENHANCED PROCESS OF ECONOMIC EMPOWERMENT

Enhanced process of economic empowerment – increase in productivity and income as a result of adopting energy efficient enterprise

As a result of the establishing/transforming energy based enterprises and with the allied support like credit access, market linkages, skill training etc, most of the women members shared that their productivity has increased and hence they have been able to earn more. For example — women members who are into tailoring activities shared that now with the motorised sewing machine (JUKI sewing machine), they are able to produce more pieces within the given time period and hence are earning more.

i. Quantitative analysis of data collected through survey method tells that with the transformation/setting up of Energy based enterprises, about 82.3% members have been benefitted and the average increase in the monthly income of the respondent have gone upto Rs. 3,282. While most of the women members felt that the change has been possible because of the HIH training and hand holding support, many of them shared that the government initiatives (related schemes) in the direction too contributed to the change.

In order to make the intervention effective, **HIH India** has not only **provided direct support** in terms of training, credit linkages, market linkages, financial management etc., but it has **also encouraged and facilitated convergence** with other relevant institutions and stakeholders such as National Rural Livelihood Mission, Krishi Vigyan Kendra (KVK), Wholesalers/vendors for regular technical support and services. As a result, the women members (along with other members of their SHG) have received technical, financial market linkage support towards strengthening their energy-based enterprises and being economically empowered.

HIH Training and handholding support instrumental for my progress as an entrepreneur!!!

Beneficiary with EBE

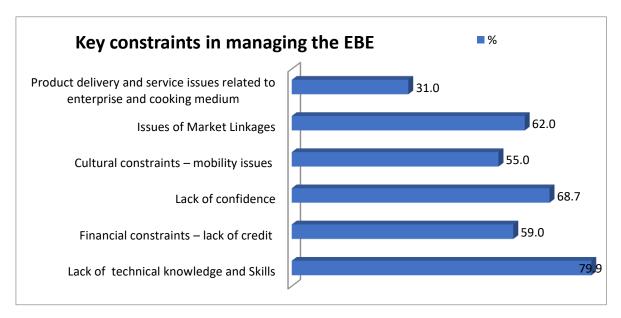
Some women members also shared that they have been able to establish and run the energy based enterprise effectively because there have been a lot of support from their husbands and family members. In one case where the women member has installed solar systems and using solar energy in running her beauty parlour shares that her electricity consumption has reduced by half with use of solar energy. She shares that without the support of my family members, it would not have been possible for me to make such a big investment (of about 1.5 lakhs loan from Belstar).

Annexure V compiles case stories of successful women entrepreneurs, who have been able to run their energy based enterprises in a successful manner as a result of the efforts (Training, credit, market linkages, handholding etc.) mase by the project.

ii. Key constraints in managing Energy based enterprises: While there have several benefits of energy based enterprises, the women members are also facing their share of challenges and constraints in running the enterprise. The nature of challenges though mostly refers to the gendered situation, their social status as women, such as lack of mobility and lack of confidence; others relate to lack of adequate technical knowledge and skills as well as lack of credit.

Findings from analysis of the quantitative data shows that while about **68.7%** respondents said lack of confidence as their key constraints, about **55%** shared that mobility has been a critical issue for them.

Women members also shared that support from HIH staff and family members have been of great help to them in addressing and overcoming the constraints in this direction.



3.3.2.4. REFLECTION – EFFECTIVENESS

i. First and foremost, the evaluation would like to emphasize that the project was implemented at a time when COVID pandemic was at its peak. Even before the project could complete the first year of its implementation and could gear up to pick up the momentum; the lockdown started. With the dreadful environment, the pace of implementation of the project was affected significantly. But it is extremely commendable that despite the challenges, the project has been able to cope well with the situation by diversifying its operation and have been able to accomplish all its activities and have remained successful in achieving its set targets.

- ii. While there are several factors that have contributed to the achievement of results (targeted outcomes and outputs), the most important has been the **project Team members of HIH** India. The project has a competent team both at the management and implementation level. Despite the COVID pandemic and its impact on the project implementation, the project Team has been able to undertake the planned activities in an effective manner realising the quantitative and qualitative results.
- iii. Having local Team members has remained a great advantage for the project. It was found that more than 90% of project staff members are local who possess better knowledge about the geography, understand the local language, culture and dynamics. This has helped tremendously in reaching out to the target community, in building confidence of the target community in the project and as a result, in ensuring greater participation in project activities.
- iv. HIH India has also been able to **build a strong rapport with the community** and connects well with them as well as understands their needs and demands. The community too bestow a great level of trust on HIH India and its staff members. This has helped in effective implementation of the project and bringing about quality results.
- v. The **stability of the project team** members has also worked in favour of the project in achieving the project results. It was found that most of the project **staff members have a reasonably long association with HIH India, that ranges from 5 to 11 years.** Considering that HIH India have been implementing multiple projects in the geography, the project staff members, by virtue of their long association with HIH India, have been part of more than one project and hence have a greater understanding regarding the complementary nature of the projects, thus avoiding possible duplication and optimising impact. Also, being part of the organisation for a longer time, they have better understanding of the organisational values and culture as well as work approach, thereby contributing to better productivity and qualitative results.
- vi. In order to achieve the desired results, the **project has strategically identified its programme components** (promotion of EBE and adoption of efficient energy for cooking) and has **meticulously planned its activities corresponding** to the programme components, that seemed appropriate and corresponds to the overall goal of the project. Moreover, the strategy adopted by the project in terms of capacity building and hand holding support, facilitating access to credit and market linkages, has proved to be extremely fitting in achieving the desired results.
- vii. By virtue of its nature, the project entails promotion and use of several machines and equipment/s that involves technological and digital literacy. **Operating such machines** and equipment' has a distinct gender identity, particularly in rural context and have always been considered as domain of male members in the community. Traditionally very little attention has been paid to involvement of women in mechanisation value chain, not just as beneficiaries, but also as controllers or owners of machineries. As a result of such gendered roles, the women members have been traditionally kept out of technology/mechanisation

value chain, and often demonstrates low confidence when it comes to use machines and power based equipment. The project, through enhancing the skills and knowledge of rural women members, has helped in breaking the barrier and myths surrounding the usage of energy-based equipment and machinery by women, thereby building self-confidence of women and in empowering them.

viii. The **empowering process** initiated by the project is also clearly visible in the efforts made by the **women members in ensuring their rights and entitlements** – at individual as well as community level. Training and capacity building efforts by the project have helped in building awareness of women members about different government schemes, and in getting their due benefit out of it. It was learnt that as a result of efforts by the project, the women members have now started attending the Panchayat meetings, raised different community issues and addressed them too. Some of the key examples are construction of concrete road in the village, drainage system, water supply etc.

Clearly, the project has been able to achieve its programme objective/s to a great extent in spite of the pandemic and its related restrictions.

However, there are **few gaps observed** with respect to the qualitative aspect of the project results. They are discussed below:

iii. As has been discussed earlier, there has been a **lot of emphasis on Tailoring/apparel** as an enterprise within the project. While tailoring seems to be the most popular trade amongst the rural women having known the basic skill as well as familiarity of operating the sewing machine, the **viability of the trade as an enterprise posing as a challenge** for many in the absence of regular orders and their capacity to explore and extend the market.

During interaction with women members, it was learnt that in on an average, they earn about Rs. 7,000 to Rs. 8,000, provided they get regular orders. But such cases are not many and particularly found where it is a group activity. There are women whose income from the tailoring activity are as low as Rs. 3000 per month in the absence of regular orders and work.

Given the situation, it is important for HIH India to explore the market in the given geography and work on diversification of trades/economic activities (locally appropriate) for better results in future.

- iv. Though the project has very strategically designed and planned its training and other capacity building activities, **effectiveness of the same seem to an issue to deliberate on**. For example capacity of the women entrepreneurs (in tailoring) to expand their market was found to be limited and many of them still look up to HIH India for the support, despite being part of the training programmes.
- v. The project has done extremely well in facilitating adoption of clean and efficient energy for cooking particularly through promotion of electric induction stoves. Many of them were found to be using it as primary source of fuel. However, maintenance and repair of the same seem to be an area of concern. During interaction with the women members, it was found

that a good number of women have stopped using the induction stove within a span of few months of procurement, primarily because there is **limited option for them to repair the stove locally once it breaks down.** On probing into the matter, it was gathered that for repairing the stove they have to depend on the vendor in the nearby town, which is a hassle for them and is time taking too.

Few of them also shared that they prefer LPG to electric cooking stove, because LPG is cost effective and has low maintenance. Further because of wide promotion by government, the local eco system has been developed.

Hence while it is good to see that women are being capacitated to use energy based equipment, but in the absence of appropriate mechanisms (local eco system) and adequate capacity of the women members, maintenance of such equipment would be a challenge affecting the results of the project.

vi. Solar system as a viable and sustainable source of energy does not seem to have got adequate attention in the project. Very few solar energy dependent enterprises were found within the project. Considering that solar energy is cost efficient, renewable and sustainable, there remains a large scope to promote solar energy as an alternative source of clean and efficient energy.

3.3.3. EFFICIENCY – SOUND MANAGEMENT AND VALUE FOR MONEY

(How well the various activities transformed the available resources into the intended results in terms of quantity, quality, and timeliness.)

In order to assess the efficiency of the project, the evaluation has focused on the following components as suggested in the agreed ToR and has tried to analyse them below:

- i) Efficient Management of project Adequacy and capacity of human resources
- ii) Timely Implementation of the project and cost-effective manner?
- iii) Sufficiency of the Training modules to create/strengthen enterprises by promoting energy-based appliances?
- iv) Was the level of involvement of the stakeholders sufficient? Is there a need for deeper collaboration in future projects or phases?
- v) How effective were the measures taken during planning and implementation to ensure that resources are efficiently used to achieve expected results?

3.3.3.1. EFFICIENT MANAGEMENT OF THE PROJECT

The project is being organised and structured keeping in mind its geographical spread and number of beneficiaries targeted as well as the socio-cultural dynamics of the geography. As discussed earlier, the project has both rural and urban coverage, covering a total of 12 Blocks across 3 districts viz., Dewas, Dhar and Indore of Madhya Pradesh. Within these 12 blocks, a total of 136 rural villages and 47 urban municipalities are covered by the project encompassing a total of 4413 women entrepreneurs.

In order to ensure efficient management and implementation, the project has deployed a total of 19 staff members both at the management and implementation level. The following table provides details regarding the staff members deployed for the project.

Table 7: Project staff list

Designation/Post	Total No.	Male	Female
DGM	1	✓	
Project Manager	1	✓	
Asst. Project Manager	1		✓
District Coordinator	2	√ (2)	
Master Trainer	2	✓	✓
Credit Officer	10	√ (9)	✓
MIS Executive	1		✓
Project Accountant	1	✓	
Total	19	15	4

As it is clear from the Table No. 7, out of the 19 staff members deployed by the project, 15 are male members and 4 are women members. Further, apart from the Project Accountant and the MIS Executive, all of them are involved with direct implementation of the project.

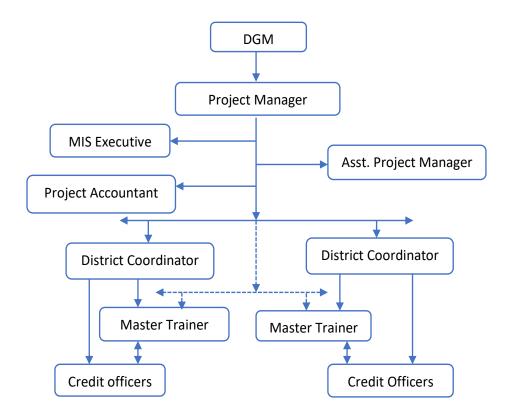
The project team comprises of 19 full -time members with the Deputy General Manager (DGM) as the head of project

Team, who is also the head of HIH India -Indore office. Out of the 19 staff members, 15 are male members while only 4 are women members.

The evaluation has tried to present the organisation of the project through the following flow diagram. As it is clear from the flow diagram, the DGM of the project, has the overall responsibility of managing the project, while ensuring delivery of results, both quantitative and qualitative. He is supported by the Project Manager who has the prime responsibility of executing the project in all locations, including the rural and urban interventions. The project manager is supported from the Assistant project Manager. The Project Manager works with District Coordinators who coordinates the implementation of the project at each district level. The project has deployed 10 Credit officers, who works at the block level and are the connecting link between the women entrepreneurs and the project. The credit Officers works at the ground level and provides all support into the women members including facilitating training, credit, establishing the enterprise, market linkage etc.

Apart from the programme implementation Team, there are two other team members viz., the MIS Executive and Project Accountant. The two Master Trainers, though works under the direct supervision of the District Coordinators, they work in coordination with the Project Manager and the credit Officers in the respective blocks.

Out of the total of 19 staff members deployed by the project, the number of staff members who worked directly with the women entrepreneurs' in implementing the project are found to be 16 (except for the DGM, MIS Executive and Project Accountant). Further, with a total of 4413 women entrepreneurs covered by the project (in the 12 blocks across 3 districts), it is estimated that each staff member was responsible for approximately **276** women members at any given point of time. Going by this estimation, it was felt that 276 is an ambitious target for a single staff to deal with, particularly in the pandemic situation, considering the objective of the project, and particularly considering the criticality involved in establishing enterprises.



Further, considering that the project covers 12 Blocks in the three target districts with a total of 4413 women entrepreneurs, the average number of beneficiaries per block is estimated to be 368. With 10 Credit Officers covering 12 blocks, each Credit Officer is presumably responsible for even more than 368 women members, which is a fairly large target to achieve.

Commendably, despite the extensivity of coverage, the project has been able to implement most of its activities and has achieved its target successfully in most cases, that is too within a squeezed time period caused by Covid pandemic.

However, there are **few gaps** realized in the qualitative aspects of the project results. For example while the EBEs have been started and operationalized in most of the cases, it is **yet to yield the desired income** in the absence of adequate market linkages resulting in irregularity in orders or limited order for many enterprises. Similarly, **not much focus was seen to promote solar energy based enterprises**. Discussion with the project team during the process of self-evaluation too substantiated the finding.

Hence, adequacy of staff members with respect to the extensivity of the project was found to be an issue by the evaluation, affecting the qualitative outputs.

Adequate capacity of staff members – Clearly, the project has a competent Team of workers, who are hard working, comes with stability and possess a good understanding about their role and responsibility within the project. Such credentials have contributed immensely to the timely implementation of the project and achievement of quantitative results in most cases.

However, there are few areas, where the progress of the project seems inadequate. One such example is promotion and use of solar based energy. While some of the contributing factors in this direction are found to be limited staff members, limited time period (owing to COVID related restrictions and challenges) with respect to targeted output; a crucial one in this direction, that needs deliberation, was found to be - lack of appropriate technical skill in the team or absence of human resources with related technical knowledge to understand the technical aspects in promoting use of energy efficient equipment, particularly solar energy. Considering that the project has a technical characteristic, deployment of human resources with appropriate technical qualification/skill/knowledge would add considerable value to the project results.

3.3.3.2. SUFFICIENCY OF TRAINING MODULES

Sufficiency of the Training modules to create/strengthen enterprises by promoting energy-based appliances?

In its efforts to achieve the stated objective, the project has undertaken several activities; capacity building of women members being a major one. Towards this, the project has imparted several trainings to the women members. They are as follows:

- i. Sensitization programme on energy based Enterprises
- ii. Technical training in energy-based entrepreneurship
- iii. Skill training
- iv. Financial Literacy- Savings, Household budgeting, Accounting
- v. Business development services (BDS training & Market access development)
- vi. Sensitization programs about energy efficient cooking methods
- vii. Training on the Use of LPG Biogas/induction /solar stove

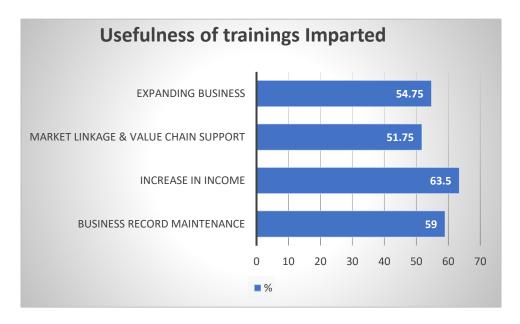
While the first five training programs refers to the programme component of *Promotion of Energy Based Enterprises*, the following two training programmes were undertaken as part of the other programme component i.e., *Adoption of efficient, clean and sustainable energy alternatives in their households*.

The training programmes identified and designed by the project seem to be quite appropriate with respect to the stated objectives of the project. Data collected as part of the evaluation too corroborates that the women members found the training programmes quite useful. It helped them not only to build understanding about energy based enterprise, but also enhances their technical knowledge on operating different equipment and ultimately increasing their efficiency. The training programmes on clean and efficient energy has also been designed well in building understanding about its benefits and promoting use of the same.

In order to facilitate effective execution of the Training programmes, focus has also been given on development of Training manuals and related training materials. Apart from this, the project has adopted an efficient approach to build cadre of Master Trainers at the local level who has been trained intensively to further train the women entrepreneurs.

In order to effectively deliver the training and sensitisation programmes, the project has also adopted a mixed method – online and offline. Interestingly, apart from classroom training methods, street theatre as a method of building understanding and awareness was also adopted and found particularly useful in building understanding of the community regarding EBE as well as about use of clean and efficient energy.

However, interaction with the women entrepreneurs revealed that though the **training** was extremely helpful, it **could have been for a longer period with more inputs and hand holding support,** particularly with reference to the training on BDS and market access. Analysis of quantitative data too support this finding as it depicts that only about 50% women members shared that the training BDS and Market access was beneficial.



Further, with respect to digital literacy training, it was learnt that while the training was organised, the focus was mostly on the theoretical part missing out on the practical part of it within the restricted time period.

3.3.3.3. SUFFICIENCY OF STAKEHOLDER INVOLVEMENT

The project has laid immense emphasis on 'convergence' as an approach to implement the project towards widening/intensifying its impact. In doing so, the project has collaborated with a wide range of stakeholders with specific objectives in complementing efforts. They key ones include vendors for technical support and services; wholesale/distributors, National Rural Livelihood Mission (Ajeevika), RSETI, KVK, local influencers like ASHA/Anganwadi workers, Panchayat members and other government departments for securing technical, financial and market support.

For credit support, the project has facilitated linkage with Banks and financial institutions. Collaboration with Belstar has remained particularly significant in enabling credit access for the women entrepreneurs for developing and creating energy-based enterprises.

Additionally, the project has also made efforts to link its beneficiaries to the relevant government schemes including the Ujjwala Yojana as well as other social security and financial schemes.

During interaction with different stakeholders, it was observed that the **project has been able to establish strong relationship with the stakeholders,** who understand the project, its objectives and its need in the geography and for the women members. The complementary nature of association of the project with different stakeholders have been particularly useful in adding significant value to the project results. For example – collaboration with stakeholders like Bank Mitra has facilitated bank linkages for about 1000 women.

3.3.3.4. REFLECTION - EFFICIENCY

- i. All 19 staff members engaged with the project have been organised quite appropriately in the given context, with clear role and responsibilities as well as line management. Clarity in role and responsibilities, and clear line management has proved to be one of the key important factors for the efficient management of the project, leading to timely implementation of project activities and achievement of results. Despite COVID pandemic, the project has been able to accomplish its activities in a timely manner and have been able to achieve the target results.
- ii. The team members are qualified, capacitated, experienced, competent and are local. Moreover, their long association with HIH India has proved to be an added advantage in contributing to the efficient management of the project.
- iii. Decentralized management and implementation of the project has remained another contributing factor for the high efficiency of the project. Strategically, HIH India has set up district offices at Dhar and Dewas and all activities in the districts are coordinated from the respective district offices. The staff members responsible for the district are based out of these district offices. Considering the geographical spread of the project, having district offices has actually minimized the travelling time of the implementation Team and other related issues, thereby contributing to constructive management of time and energy in the implementation of project activities.
- iv. Recognizing that the field level workers have a crucial role to play in the implementation of the project, the project has strategically appointed 10 Credit Officers, approximately, one Credit Officer per block and have invested on them through their capacity building. Deployment of women members as Credit Officers (field level workers) have particularly worked in building a great level rapport and in facilitating smooth implementation of activities.

However, the evaluation has taken note of few observations which require attention and addressing them would further strengthen the efficiency of the project.

- i. Adequacy of staff members with respect to the extensivity of the project was found to be an issue by the evaluation, affecting the qualitative outputs. Proportionate number of staff engaged with respect to total beneficiary coverage by the project was found be on the lower side. Further with the time loss faced by the project as a result of the COVID pandemic, some of the project activities could not receive the desired attention and focus. Consequently, qualitative aspects of the results have been affected to some extent in few cases, even though the project has been notably implemented the planned actions in a timely manner and have achieved its quantitative targets. For example limited market linkages for established enterprises EBEs leading to irregular orders and attainment of economic viability, limited focus solar energy based enterprises etc.
- ii. With a total of 19 staff members, the project has covered a total of 4,413 direct beneficiaries (women members) across 12 blocks in 3 districts of Madhya Pradesh. Out of these 19, around 4 are women members (21% women staff members). Out of these 4 women staff members, only 3 are found to be working directly with the women members at the ground level.

Despite its focus on gender equality and women empowerment, women's participation in the project workforce was found to be low as compared to the total staff members engaged with the project. Moreover, considering that the direct beneficiaries of the project are rural women, having women staff members has its own advantages such as prompt rapport building, greater participation of women members in project activities, greater trust level, etc. which are crucial for in achieving the project results.

3.3.4. IMPACT – ACHIEVEMENT OF WIDER EFFECTS

(The extent to which the objectives of the project have been achieved as intended, in particular, the overall objective.)

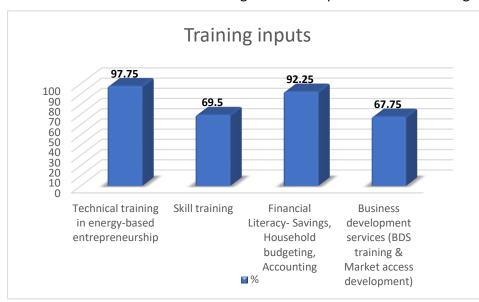
In assessing the impact of the project, the evaluation has tried to discuss the extent to which the objective of the project has been achieved. In doing so, it has taken into consideration the 'Impact' questions as stated in the agreed ToR.

With the objective to reduce energy poverty in the region through mainstreaming gender concerns and building the social capacities (along with economic self-reliance) of women, the project has adopted a two-pronged approach: Focus on gender mainstreaming and livelihood creation by taking advantage of rural electrification and Providing the women (along with their husbands/family members) information and handholding support to adopt efficient, clean and sustainable energy alternatives in their daily lives (i.e. renewable energy sources).

In doing so, the project has undertaken several activities in the last three years as enumerated in the previous sections. Consistent efforts have been made towards promotion of EBE and facilitating adoption of clean energy in cooking, through training, awareness, facilitating credit support and providing hand holding support. The result has been remarkable with a coverage of 4413 women members who are either running EBEs and/or using clean energy for cooking and for other household activities. The two key components are discussed below.

3.3.4.1. FOCUS ON GENDER MAINSTREAMING AND LIVELIHOOD CREATION — PROMOTING ENERGY BASED ENTERPRISES

- electrification: Through this process, the project has provided trainings and credit support to rural women to establish energy-based enterprises or transform their existing non-energy enterprises to energy-base enterprises. In doing so, several training programmes have been organised for these women on specific energy-based ways for income generation that they can use in running their business activities. Some examples include motorized tailoring and sewing machines, motorized bangle making machines, energy based equipment's for beauty parlour etc.
- ii) Additionally, training on business development was also provided to these women that include developing market linkages, marketing, strategy, competitor analysis, financial decision making etc. Consistent hand holding support by the project staff to the women members too constitute a significant component in establishing the EBEs and making it

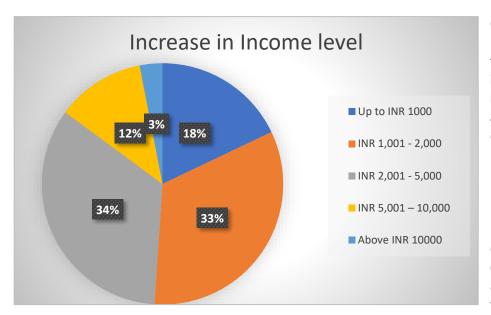


feasible. Interaction with women members revealed that about 98% members women were part of the training technical provided as part establishing EBE; while **92%** shared that they learned financial literacy and about 68% were part of the **Business** Development Services training. The

women members felt that the training programmes were useful and were helpful in enhancing their skill and knowledge to run the EBE.

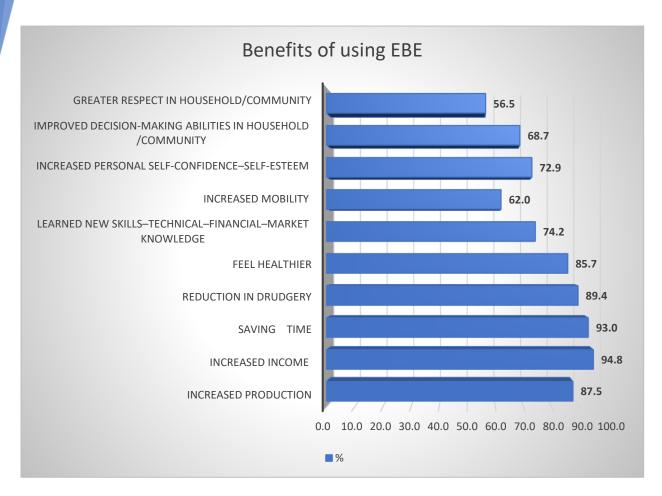
Benefits of EBE: As a result of the above mentioned support, a total of 3,246 energy based enterprises have been established by end of March 2022, as reported by the project (Yearly report). Further, with the support provided by the project, there are about 2,961 women who have either established new energy based enterprises or have turned their business to energy efficient enterprises.

iv) Interaction with the women members revealed that use of motorized machines and equipment have not only enhanced their production capacity, but also shows a positive impact in the level of their earning. Analysis of quantitative data collected as part of the evaluation depicts that the level of increase in monthly income of the women members varies from Rs. 1,000 to Rs. 10,000 per month. The increase in monthly income, however, has been Rs. 2,000 to Rs. 5,000 per month for majority of women members (34%), which is followed by an increase of Rs. 1000 to Rs. 2000 per month for about 33% of respondents.



Other than increase in income levels. the impact of the intervention has been observed in areas like reduced drudgery, increase in production, better time management, increased decisionmaking ability and enhanced level of confidence amongst the women members.

As per the findings of the quantitative data analysis, while about **94.8%** women experience increase in income as a result of the intervention, about **89%** feels that adoption of energy based enterprise has a great impact on reducing the drudgery level of the women entrepreneurs. Please refer to the following chart for the findings.

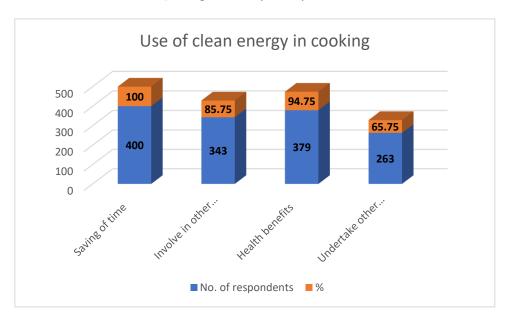


Further, considering that the focus of the project has been largely women, the intervention has contributed to economic empowerment of women through mainstreaming gender in the economic arena by promoting women as entrepreneurs and building their capacities to run energy-based enterprises. This has positively influenced factors like greater respect, improved decision making ability within family and community, leading to social empowerment of women.

3.3.4.2. ADOPTION OF CLEAN AND EFFICIENT ENERGY IN DAILY LIVES - COOKING

Providing the women (along with their husbands/family members) information and handholding support to adopt efficient, clean and sustainable energy alternatives in their daily lives (i.e. renewable energy sources): In doing so, the project has promoted adoption of electric induction stove, LPG for cooking in a focussed manner. Along with sensitisation programmes on advantages of clean and efficient cooking methods, training programmes were also conducted including method of usage, connection with vendors and maintenance of clean cook stoves, solar panels or water pumping systems. The aim was to sensitise women to avoid use of conventional cooking methods such as using fuelwood and other biomass, that would be environment friendly and also help the women at household and personal level to reduce household toil by saving the cost they pay for energy consumption and enable them to spend their extra time on economically

empowering activities. Thereby, positively impacting education, health and nutrition level of women and their households (savings, healthy lifestyles, reduced labour and time etc.).



3.3.4.3. COMPARATIVE ANALYSIS – BASELINE AND ENDLINE DATA

The evaluation has also tried to assess the impact of the project by making a comparative analysis of quantitative data collected during baseline study and during the endline study. Please refer to **Annexure VI** for the detailed analysis of Outcome and Output indicators during baseline and endline study.

As it is clear from the comparative analysis, there has been a sharp increase (72%) in the monthly family income as a result of the project. From Rs. 9,460 per month in 2019, the monthly income of the family has increased to Rs. 16,353 in 2022. Similarly, the income from the enterprise (non-energy based) has also increased from Rs. 3,095 per month to Rs. 7,238 per month, as a result of use energy efficient equipment and machineries and relevant trainings to run the enterprise.

The comparative analysis also revealed that while there were only **58%** household found to be using LPG as primary fuel for cooking during baseline, the indicator shows an upward increase during endline with **99% of** the households using clean cooking fuel (LPG) as primary fuel for cooking. Further, 77% of respondents were found to be in possession of electric/ induction stoves during endline as against 0% during baseline.

Further, the comparative data clearly reflects that adoption of efficient energy in cooking and in enterprise have saved around 2.7 hours' time per day on an average and 92% shared that have utilized this time in productive activities.

Comparative Analysis: Baseline and End-line Measurable Indicators					
Measurable Targe	et Indicators (as per the LFA)	Baseline(s)	End-line assessment Findings		
Outcome 1: Women have increased productivity and income through energy based enterprises.	 i. 20% increase in income from the energy based enterprises. ii. 30% increase in productivity by shifting to energy based enterprises iii. 70% of the interviewees have positive perspective of their shift to energy based enterprises in terms of income and productivity increase 	income – INR 9460 ii. Income from enterprise – INR 3095 iii. Productivity: -Increase in monthly income, production, Time spent on productive work, other than enterprise,	(72% increase in family income) ii. Income from enterprise – INR 7238 (134% increase in family income) Productivity: 83% of the total respondents have positive perspective of their shift to energy based enterprises. Out of them:		
Output 1.1 - Women have increased knowledge and understanding on how to establish/transform to energy efficient	technically trained in energy based entrepreneurship ii. 80% of women (3200) trained on use of energy services to enterprises		hours' time by adopting energy in cooking medium and enterprise and 92% of them have utilized this time in productive activities. 99% respondents have gone through either one or multiple types of training programs and 98% revealed that they found training useful. i. 98% in Technical training in energy-based entrepreneurship.		
enterprises.	skill training iv. 4000 of women covered through sensitization programs v. 80% (3200) of the target group who started Energy Based enterprises		 ii. 93% on the Use of energy services. iii. 70% in skill training iv. 67% of respondents received Business Development Services training. v. 82% of the respondents have Energy Based enterprises. (74% have a single EBE, 17% have two EBEs and 1% have three EBEs) 		

Endline Evaluation Report - Power To Empower project, Madhya Pradesh, India

have increased	ii. 80% If facility from the:	4000 women (100%) women trained on financial literacy 70% of the target group maintaining their books of accounts (3200 women) of women litated on credit support in MF program / banks from start of the project: For energy based enterprise/product For the purchase of Bio cook stoves / solar cook	ii.	50% women (as pethe baseline findings) 44% women (as pethe baseline findings) women	76% pur	separate accounts of their enterprises. % of respondents have availed loans for rchasing energy-based equipment for terprises 61% of respondents have availed loans for purchasing energy-based equipment for enterprises
Outcome 2: Women have adopted efficient, clean and sustainable energy alternatives in the household.	; ; d / ii.	stoves / LPG for energy- based enterprise 80% (3200) of households	LPG cool ii)	as primary fuel foxing) o% of househol	or	cooking fuel as primary fuel for cooking. 77% of respondents have electric/induction stoves. 99.5% of respondents have LPG connection, 57% have single cylinder and 42% double cylinder.
Output 2- Women and Family members are more aware of energy poverty measures and are willing to adopt energy enterprise and cooking medium. Covid-19 Impact and Response	ii.		iv.	No tie ups wit vendors. prises and day to d	ii. iii.	vendors for supply of electric induction cook stove and to get good services in case of any technical problem. 88% of the respondents get support from family members in managing energy efficient enterprises in terms of sharing responsibilities (85%), managing finance (64%), market linkage (73%), and support in household work (61%).

- **ii.** 74% of respondents were better able to respond the Covid-19 effects as they received following benefits from HIH staff during the pandemic:
 - **a.** Psychological Counselling and mentoring 61%
 - **b.** Digital training 51%
 - **c.** Awareness on Covid-19 safety protocols 71%
 - d. Support by procuring orders of production of Masks/Sanitizer production orders 51%
 - **e.** Access to government Covid-19 relief schemes 75%
 - **f.** Market linkage through a digital platform (Whatsapp) 41%

3.3.4.4. REFLECTION - IMPACT

- i. As narrated in the previous section, while focusing in the areas Promotion of EBE and efficient and clean energy in cooking the project has clearly made a positive impact both at the economic and social arena of the women entrepreneurs. The interventions in these areas have not only enhanced their economic status but have also impacted their physical health status through reduced drudgery and hassle-free cooking methods.
- ii. The project through use of power (mechanization and automation) has served the dual purpose of addressing the productivity and profitability of micro enterprises and small businesses by rural women, and also involving women in the mechanization value chain not just as beneficiaries but also as controllers or owners of machineries; thus, contributing to the ultimate result of women's empowerment. Many social scientists too agree that improved access to technology can be a great empowering tool for rural women as it provides them opportunities that contributes to narrowing the gender gaps (both social and economic) in the family and society leading to empowerment of women.
- iii. The empowering process further got enriched by the capacity building initiatives undertaken by the project, such as learning new skills of operating machines, managing business, dealing with banks etc. leading to enhanced knowledge, mobility and self-confidence.
- iv. The support provided by the project in this direction has been comprehensive starting from technical training to enable appropriate use of machines and equipment, to skill development training, facilitating sourcing of raw material and market linkages; along with consistent hand holding support. Moreover, the project entails person-specific support as opposed to group support provided by HIH India in some of its earlier projects (UNITED project for example), and the project has been able to do this in a very systematic manner. A competent team member is key in this direction.
- v. Clearly, through its two-pronged approach, well thought out strategy, well-designed activities and well organised team, the project has been able to mainstream gender concerns in mechanization value chain to a good extent and have been able to build economic self reliance amongst them through increased skill and capacity; thereby, contributing to the larger objective of reducing energy poverty in the region, despite the challenges posed by COVID 19 pandemic.

3.3.5. SUSTAINABILITY – LIKELY CONTINUATION OF ACHIEVED RESULTS

(An assessment of whether the positive outcomes of the project and the flow of benefits are likely to continue after external funding and/ or non-funding support interventions (referral linkages, coordination) ends)

In assessing the sustainability of the project, the evaluation has taken into consideration the suggestive questions laid down in agreed TOR.

Clearly, as a result of the project interventions and associated support, there have been visible changes in the economic and social status of women members, who are now more aware, technologically sound, confident in using power-based machines and equipment, informed about bank dealings and market linkages, and more importantly, have attained economic self-reliance and are able to contribute to their family income. There are several examples to validate the same, as has been discussed in the earlier sections as well as in Annexure V.

Having said that, the evaluation would like to state that the project has not only been able to make a visible mark in achieving the targeted results within a constricted time period (owing to COVID 19 pandemic), but has remained notably opportune with respect to the **timing** which has contributed to the **sustainability of the results to a great extent.** Some of the factors are discussed below:

- i. The project was implemented at a time when the Government of India was coming out heavily on rural electrification and promotion of clean cooking fuel through implementation of schemes like SAUBHAGYA- Pradhan Mantri Sahaj Bijli Har Ghar Yojana and Pradhan Mantri Ujjwala Yojana (PMUY) respectively. While the SAUBHAGYA scheme focuses on last mile connectivity and electricity connections to all the unelectrified households in the country, the Ujjwala scheme aims to safeguard the health of women & children by providing them with a clean cooking fuel – LPG, so that they do not have to compromise their health in smoky kitchens or wander in unsafe areas collecting firewood. Interestingly, the objectives of these schemes moved hand in hand with the objective of the project and complemented the efforts by the project to a great extent. Subsidized electric connections eased establishment of power-based enterprises and use of electric induction stove for cooking for the rural community. In fact, provision of LPG connections by the government added enormous value to the efforts made by the project in promoting electric induction stove towards clean and efficient energy for cooking. Such a situation has largely contributed to the sustainability of results of the project.
- ii. The other important factor that has a great potential to contribute to the sustainability of results, has been the efforts made by the project in **fostering coordination and collaboration among local service providers, vendors, Govt. Extension agencies, women entrepreneurs' associations, NGOs, cooperatives as well as financial institutions.** This would be helpful in improving access to information and other relevant services for the women members in adding value to their efforts in building the enterprise; thus sustaining the results.

3.3.5.1. REFLECTION - SUSTAINABILITY

However, there are few observations and findings that require further deliberations. They are discussed in the following section.

- i. In order to achieve its overall objective, the project has embarked on two primary programme components; one of them being promotion of energy based enterprises. This has two distinct parts 'use of energy' and 'promotion of enterprise'. While sustainability of results related to use of energy does not seem to be an issue, mostly because of the changes in external environment; but there are **concerns with respect to sustaining the enterprise**. Interaction with women members revealed that with the skill training and technical training, they are now able to produce more, but in the absence of regular orders, the profit margin getting affected and so as the growth of the enterprise. With their limited capacity to explore and expand the market, the viability of the economic activity is at risk, thereby affecting its sustainability.
- ii. Further, in the **absence of adequate diversification of economic activity** within the project, a large number of women members are holding on to tailoring and stitching and have invested in motorized industrial sewing machines. Such a situation is further affecting the sustainability of the efforts in the absence of adequate market linkages and proportionate quantity of orders.
- iii. Interaction with the women members further revealed that there has been a great demand for induction stoves for cooking. But in the **absence of adequate and appropriate mechanisms built within the project for maintenance support of the equipment**, many of them have stopped using the same as it breaks down, even within less than a year in some cases. The situation has not only jeopardized the investment made in the direction, but also has affected the prime objective of the initiative, thereby affecting the sustainability of results.

3.3.6. EQUITY

HIH India lay a great importance to equity as an approach to development and hence, tries to incorporate the principle in ts projects. Accordingly, the P2E project too has made an interesting attempt on addressing inclusion and diversity in its intervention strategy and approach.

First and foremost, the project has consciously included women as its primary target community considering their low social status in the society at large. The focus of the project further trickles down to largely women from rural areas as access to opportunities are limited in rural areas as compared to urban set up. Also, considering that women from lower caste communities and minority community face "triple burden" of gender bias, caste discrimination and economic deprivation, the project has included women from SC, ST, OBC and minority communities as its beneficiaries.

However, considering the nature of the project, it has strategically selected households within these communities with relatively better economic status with the expectation that they have the capacity to invest in establishing energy based enterprise. As a strategy, the **male members of the household have also been included as indirect beneficiary of the project**, thereby easing the decision making process for investment in the machines and equipment. Towards this, the project has also included them in the sensitization programmes undertaken by the project.

Another important observation in this direction has been the **conscious step taken by the project to include women with disability.** Realising that 'women with disability' bear the burden of multiple discrimination by being women, and with disability, the project has included them as direct beneficiary of the project.

In the absence of relevant data, while it is difficult to present percentage of women with disability as direct beneficiary of the project, the case story of Sangeeta (a women with disability) as shared in Annexure V speaks for itself.

3.3.6.1. REFLECTION - EQUITY

In consideration of the gender dimensions in its interventions, the project has included men (of the household) in its actions. They were part of the sensitization programmes undertaken by the project towards establishing EBEs and use of other energy dependent equipment. However, not much information could be gathered to assess the extent of their association in the project in facilitating the process of women empowerment.

4. CONCLUSION AND RECOMMENDATIONS

4.1. CONCLUDING REMARKS

The 'Power to Empower' project was found to be a **project with unique characteristics**. It aims to **address a complex issue of 'energy poverty'** in the most simplistic manner by including **promotion of energy-based enterprise development** and **adoption of clean and efficient energy in cooking** as its key programme components. Though it might appear that with a focus on enterprise development, it aims to achieve economic self sufficiency for its women members, but clearly through using this approach, it has been able to contribute to the overall objective of reducing energy poverty in the region. Towards this, the project has been able to make a visible mark with its well thought out strategy/approach and well designed activities.

The other characteristic that makes **the project unique is its focus on 'women's empowerment'**. Needless to mention, 'women's empowerment' has been the fundamental focus for HIH India, as has been seen in its other projects (likes of UNITED project) implemented in the region, where it uses different strategies and approaches to influence the same. In the same way, in the P2E project, HIH India has made an effort to use **'energy/technology' as a tool for women's empowerment** through use of modern tools and machines in enterprise development and in cooking.

The uniqueness of the project further gets enriched by the fact that by using 'energy' (machines and tools) in enterprise development and as alternative cooking method, the project has not only impacted the economic empowerment of women, but also contributed to the physical health of women through drudgery reduction in household activities, involved particularly in traditional method of cooking.

Apart from its unique strategic orientation, the success of the project has lot of bearing to its effective implementation. Efficient organisation of its human resources, and engagement of a competent, long standing and experienced local team at the helm of the project, have worked well in successfully executing the planned activities and delivering the expected results within a compressed time period while addressing the COVID induced challenges. Interestingly, apart from the planned activities, the project also successfully carried out several additional activities laid by COVID pandemic (like awareness on covid safety protocols, psychological counselling etc.), which further occupied space and attention within the already squeezed time period of the project.

Several other factors too have worked in this direction. A fertile ground, created by HIH India through its earlier projects, complementary efforts by the government initiated schemes, backing of women collectives at the ground level, all have added tremendous value to the achievement of project results.

The evaluation, however, took note of few operational areas addressing which could have added more value to the quality of results and in sustaining the efforts. While introduction of electric induction stove has proved to be an effective alternative in cooking, **absence of in-built mechanisms to maintain the equipment** within the project has affected the effectiveness of the initiative to a reasonable extent. As a result, many women who have started using the induction

stove have resorted to the traditional method even within a period of six months. Another grey area in the project has been the **absence of adequate efforts to promote solar energy,** which comes across as an area to focus on, considering that it is naturally more sustainable than fossil fuel energy sources and is more environmentally sustainable. Another such area has been **inadequate diversification of economic activities**. Too much focus on few selected trades like tailoring, has disturbed the supply and demand equilibrium affecting the viability of the trade.

Having said that, with all its strengths and challenges (more strengths indeed), the project seems to be a right move, in the right time and in the right direction in addressing the energy poverty in the region while mainstreaming gender concerns in its contribution towards an 'inclusive and equitable' society.

4.2. KEY RECOMMENDATIONS

Specific recommendations which follow systematically from the analysis of findings presented in the previous section are consolidated in this section primarily in two parts. While recommendations in Part 1 refers mostly to operational inputs in case there will be a continuation of another phase of the project; Part 2 mainly provide few strategic inputs that that could have been possibly worked out or can be considered in future by HIH India (irrespective of whether the project will be continued or not) towards improving its future interventions in the best interest of the organisation and the community.

Part 1 – As already stated, **efforts made by project** in promoting the energy based enterprises and adoption of clean and efficient energy in cooking methods **have been of great significance to the context.** It has used energy/technology as a tool to empower rural poor women, while impacting their life and livelihood. The project is also suitably designed keeping in mind the context as well as the needs and demands of the target population; and has used a 'two-pronged approach' - Mainstreaming gender and livelihood creation by taking advantage of rural electrification and Providing the women (along with their husbands/family members) information and handholding support to adopt efficient, clean and sustainable energy alternatives in their daily lives.

However, there are few gaps observed in the implementation of the project which had an adverse impact of the project results. The following recommendations may be considered to address those gaps in case of continuation of another phase of the project.

i. One of the key focus of the project was to provide women and their family members with information and hand holding support, so that they adopt clean and efficient energy alternative in their daily lives. It may be useful to mention here that while LPG connections being taken care of by government through it's 'Ujjwala' scheme, high cost of LPG cylinders force women to continue using firewood and it is in this context, the project mainly focused on promoting electric induction stove as alternative energy for cooking in this direction. This involved linking with vendors for procuring the induction stoves and training to operate the stove safely. Some women members, mostly with small shops, were also encouraged and capacitated to become a local vendor for the same by keeping a margin in the selling price

and strengthen their enterprise. The arrangement has, in fact, served a dual purpose of easy procurement for women members and livelihood strengthening for some.

However, the project has not taken into consideration the maintenance of the stove and the women vendors were not capacitated to repair the stoves in case of break down. As a result, dependency on the primary vendor (or HIH staff) remains which has proved to be time taking, not cost-effective and also involves lot of hassle for the women members. The situation has, in fact, adversely affected the result as many women were found to have stopped using the induction stove and seeing them many were discouraged to procure them.

Under such circumstances, the evaluation recommends that it would have been useful to include skill training as electrician/mechanics as a livelihood option within the project and train few women members in each block to undertake repairing of the induction stoves along with other electrical/electronic equipment. Such an initiative would have taken care of several issues — a) addressing the gender barrier to male dominated professions like electrician/mechanics, b) Securing a stable livelihood for the women members through acquiring the skill, c) contribute to creating a ecosystem through providing local options for repair the induction stove and other equipment to the larger community and d) ultimately, sustaining the project results.

Alternatively, the project could have thought of training the local electricians in repairing the induction stove towards strengthening the project results.

ii. Limited focus on use of solar energy as an alternative energy was found to be a gap in the project, particularly considering that it is environmentally sustainable, low maintenance, safer and easy to install. There have been also several initiatives by the government to promote solar energy through National Solar Mission.

It is, therefore, recommended that the HIH India/project includes solar energy as an alternative energy in future interventions of this nature. A thorough 'scoping analysis' is recommended in this direction to initiate appropriate actions.

Promoting solar energy also has the advantage of creating livelihood opportunities for the community including women, through training and support in solar panel installation and maintenance of solar systems, and in turn, contributing to the economic empowerment of women, in particular.

Part 2: This includes **few strategic inputs** that that can be considered in future by HIH India irrespective of continuation of a second phase of the project or implementation of other projects in the geography, towards improving the project interventions in the best interest of the project and communities.

i. Contributing to the economic empowerment of women in the geography has been a key area for HIH India in its projects including the P2E project, UNITED project (to name a few). In this direction it has embarked on creating suitable livelihood opportunities for women through training and other support. The current project too has a large focus on enterprise development (energy based enterprise). In doing so, HIH India has identified different trades and is working towards developing the eco system towards making them economically viable. However, it was realized that there has been a huge focus on few selected trades and a major percentage of its target community are depending on these few trades for their livelihood. One such example is **Tailoring**, wherein with mechanized machines and skill upgradation, the production in increasing without proportionate expansion of market, affecting the economic viability of the trade. The other such example of high dependency has been 'small shops'.

It is, therefore, recommended that it is time for HIH India to conduct a detailed 'mapping analysis' and explore possible scope for appropriate diversification of economic activities for women, both farm and non-farm based, which are suitable to the geography, can garner adequate demand, and can address the gendered stereotypes in the society.

ii. The other specific recommendation in this direction is more overarching in nature. It may not be incorrect to state that the context in rural India is changing faster and so is the definition of development. Lately, there have been several development initiatives by the central and state government aimed at addressing economic and social development issues faced by the rural community including women's empowerment, livelihood creation, skill development, water supply, energy, financial inclusion, etc.

The geography and context in which HIH India is operating in the state of Madhya Pradesh is no different and is fast changing with government of Madhya Pradesh coming out with several development schemes and policies, though in some cases its access is a gap.

While HIH India's aim is to bridge this gap and reach the last mile, the context may pose as potential risk for HIH India by duplicating efforts and diluting the desired results.

Under such circumstances, the evaluation recommends that HIH India undertake a detailed 'Situational Analysis' of the region and accordingly revisit its intervention strategies, identify gap areas, and accordingly work out its intervention areas, towards making its efforts complementing in ensuring greater impact.

LIST OF ANNEXURE

Annexure I – Agreed ToR

Annexure II – Tools used for the evaluation

Annexure III - Visit Schedule of the Evaluation Team

Annexure IV – Midline Evaluation Report of P2E project

Annexure V – Case stories of successful Women Entrepreneurs

Annexure VI – Comparative analysis of Outcome and Output indicators during baseline and endline study.

Endline Evaluation Report - Power To Empower project, Madhya Pradesh, India