



Empowering Women Through Clean Energy Transition: Insights from Pradhan Mantri Ujjwala Yojana

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Background:

Women's access to clean energy and gender equality are intrinsically related, as clean energy transitions wield power to provide greater opportunities for women by fostering economic growth and overall well-being. The gender-energy nexus is central to the framework of the Global Sustainable Development Goals; yet, research conducted by the International Energy Agency (IEA) highlighted that, in India, approximately 681 million people still rely on solid fuels (also known as traditional fuels) for cooking (Sofi & Mehrotra, 2024). This practice of consuming traditional fuels such as firewood, coal, cow-dung cakes, etc., poses three serious implications: a) detrimental health impacts, especially on rural women and children, b) loss of labour due to time-energy poverty, and c) environmental pollution. Furthermore, a considerable amount of time is spent by women in unpaid domestic work, of which a major portion gets exhausted in firewood collection. Since the responsibility of the collection of firewood falls mainly on women and young girls, it also overwhelmingly augments the drop-out rates among girls and exposes them to various incidents of sexual abuse. All these factors exert an adverse impact on the employment opportunities of women and the future human and social capital of the country. To ameliorate these deleterious issues, the Ministry of Petroleum and Natural Gas launched the Pradhan Mantri Ujjwala Yojana (PMUY) on May 1, 2016. Intending to promote health, environmental sustainability, and women's economic empowerment, the government of India introduced this flagship scheme to make clean cooking fuel available to rural and marginalised households (Ministry of Petroleum and Natural Gas, pmuy.gov.in), with the slogan - *Swachh Indhan, Behtar Jeevan – Mahilaon ko mila Samman* (Clean Fuel: Better Life

– A respect towards women's lives). The initiative – in line with the dream of creating smokeless villages across the country – came as a moment of pride for the women, especially from the BPL (Below Poverty Level) households. The scheme has empowered its users by reducing drudgery and time spent on cooking, therefore increasing employment opportunities, along with employing rural youth in the supply chain.

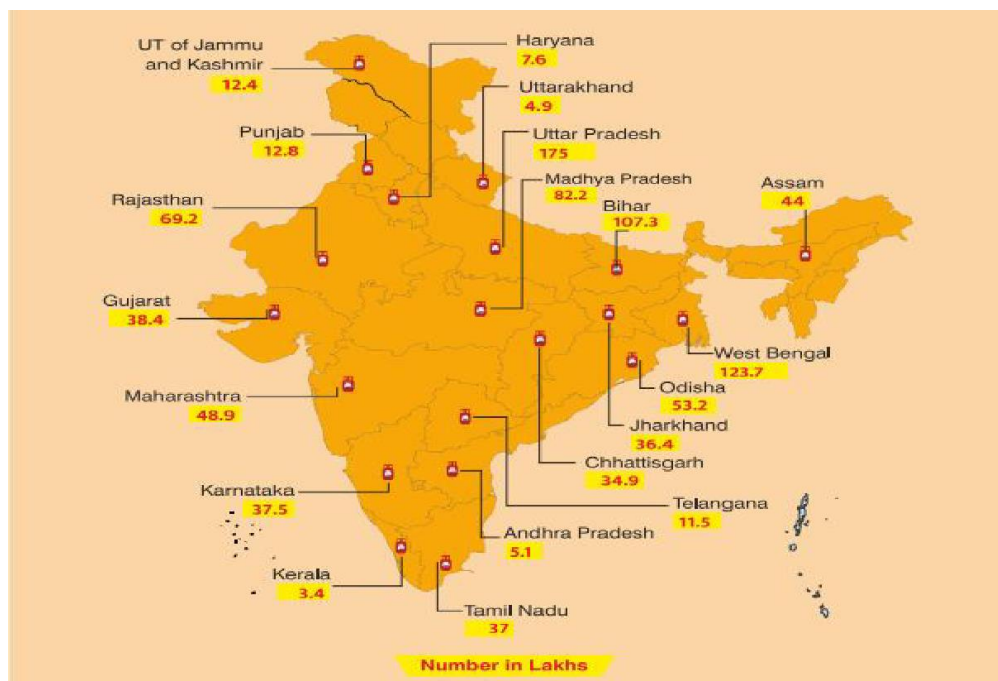
Current Status, Coverage, and Budgetary Allocation of The Scheme

As of March 2025, 103,346,386 connections have been released to women from below-poverty-level households. The Phase II of the scheme – Ujjwala 2.0 (FY 21-22)– gave special provisions to migrant families who, with self-declaration and ration card, could avail new connections, instead of bearing the burden of proof of address. The budgetary allocation for the scheme also increased from 6817 crores in FY 2022-23; 8500 crores in FY 2023-24 to 12,000 crores in FY 2024-25.

The connections are disbursed to adult women of poor families, who are identified following a set criterion. A typical beneficiary has the option to choose from 14.2 kg Single Bottle Connection (SBC) or 5 kg SBC, or 5kg Double Bottle Connection (DBC) with a targeted subsidy of Rs 350 per 14.2 kg cylinder up to 12 refills. Under the scheme the government bears an expenditure of Rs 1600 per connection of security deposit of the cylinder, pressure regulator, Suraksha hose, District Cooperative Development Committee (DGDC) booklet, and installation charge.

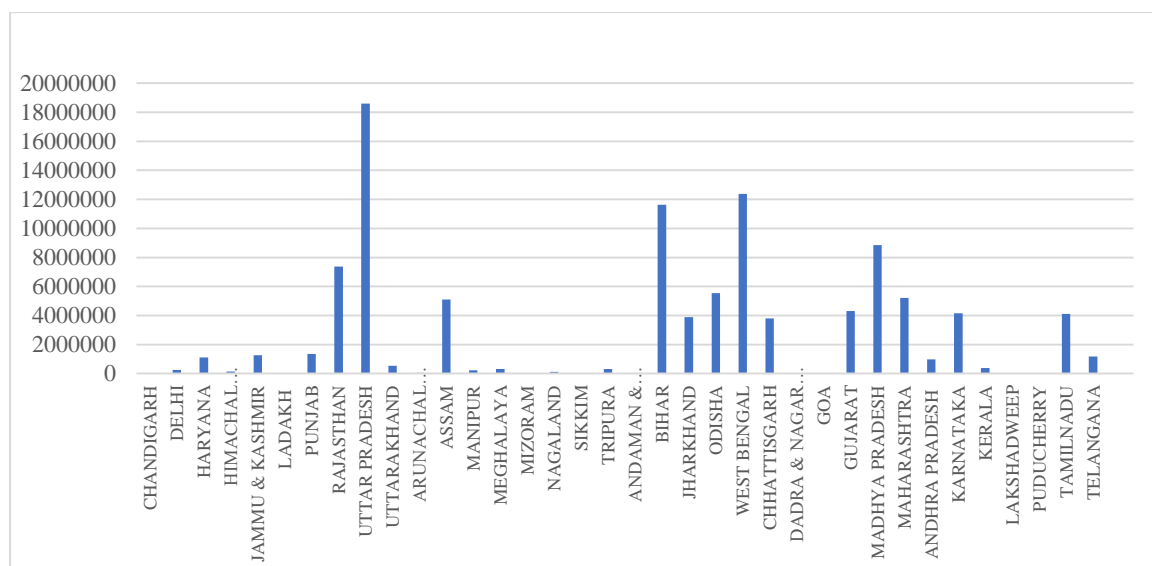
The scheme covers all 36 States and UTs (see Map 3.1), with Uttar Pradesh (UP), West Bengal, Bihar, Madhya Pradesh, and Rajasthan, being the top beneficiaries of the scheme (see Chart 3.1). UP alone accounts for a substantial share of the total PMUY connections i.e., 1.85 crore. Bihar, West Bengal, MP, and Rajasthan also highlight a fair share of LPG connections being sanctioned in these states.

Map 1: Spatial Coverage of the PMUY Scheme



Source: Press Information Bureau (pib.gov.in)

Figure 1: State-wise PMUY Connections for the Year 2024



Source: Author's representation from PSU OMCs (IOCL, BPCL & HPCL)

Empowering Women through Employment Generation: The Impact of PMUY

A significant body of research, conducted to date, on the Ujjwala Yojna has primarily focused on the impact of the scheme in terms of behavioral changes among women, improved health outcomes, reduced drudgery, and environmental benefits (Malakr & Day, 2020; Roy, 2024). The employment implication, though, has been highlighted in a study conducted by ORF in 2024, exclusively focused on the job creation among men. The study titled 'Cost-Effectiveness Analysis of the Pradhan Mantri Ujjwala Yojna (PMUY) in India: A Well-Being Perspective' featured an estimated 100,000 direct jobs created by the initiative, in the segments of LPG distribution and infrastructure. Though the study, like many other, has highlighted the impact of PMUY in women empowerment and reduction in time-poverty, the direct or indirect implication of the scheme in inducing employment generation or additional income generation among women is missing.

In this context, the present study was conceptualised to portray the impact of the PMUY scheme under four important verticals: health, wellbeing, environment, and employment. Therefore, along with understanding the coverage and accessibility of the LPG, under PMUY, one of the major objectives of the study was to understand the ramifications of the scheme in employment generation among rural women, in select districts of Bhopal, Sheore (Madhya Pradesh), and Varanasi (Uttar Pradesh). In doing so, the study goes beyond mere employment projections and delves deeper into various socio-economic fundamentals such as labour productivity, impact of health benefits on labour outcome, time use, income diversification, skill development, and gendered impacts. The study, which is a part of the larger study on the '*Impact Assessment of the Flagship Schemes on the Lives of Labour*', employed a mixed methodological approach, combining both qualitative and quantitative inquiry, to achieve a comprehensive understanding of the impact of the scheme on the lives, livelihood, and employment outcomes of the rural labour households.¹ The insights are drawn from a survey of 224 women beneficiaries and 5 Key Informant Interviews.

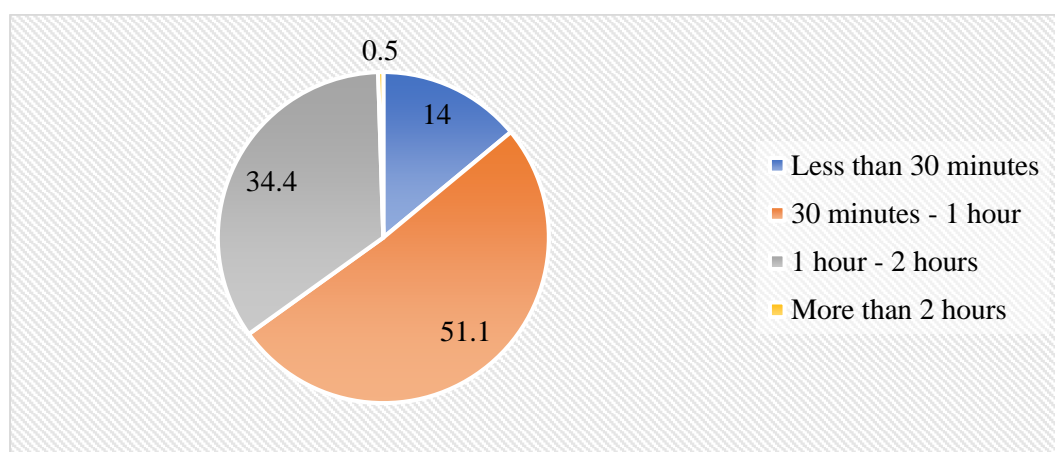
Enhanced Labour Market Participation through Addressing Time-poverty

One of the most immediate impacts of the PMUY has been the reduction in time and drudgery, which has been historically associated with the collection of firewood/biomass by women and girls, especially in rural areas. The study highlights a convenience factor, agreed upon by 95 percent of the respondents, who confirmed the ease and efficiency they experienced using LPG,

¹ This document only highlights the employment vertical of the scheme.

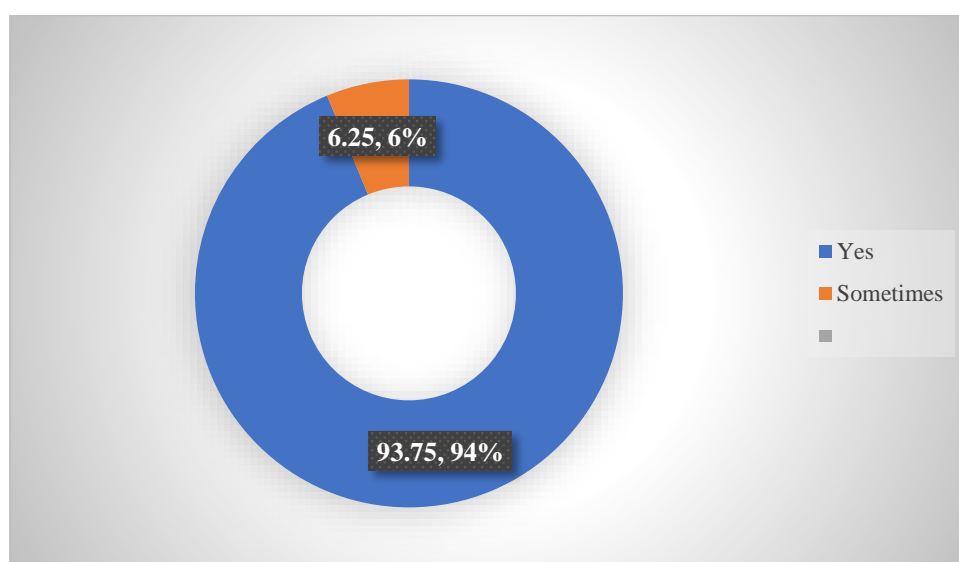
with 93 percent experiencing a noticeable reduction in cooking time after the shift. On an average, respondents highlighted saving 30 minutes to 2 hours daily in cooking (Figure 2), which 93.75 percent asserted utilising in various income-generating activities (Figure 3). It has also been widely highlighted in many studies that a shift to LPG has spared women from the time-consuming and unpleasant task of gathering and using dirty fuel (Ahmad, Sharma, & Singh, 2018; Selvam, et al. 2022; Jha 2024)

Figure 2: Average Time Saved after Shifting to LPG as the Main Source of Cooking



Source: Primary Survey 2024, VVGNNLI.

Figure 3: Percent Respondents Utilising Saved Time in Various Economic Activities



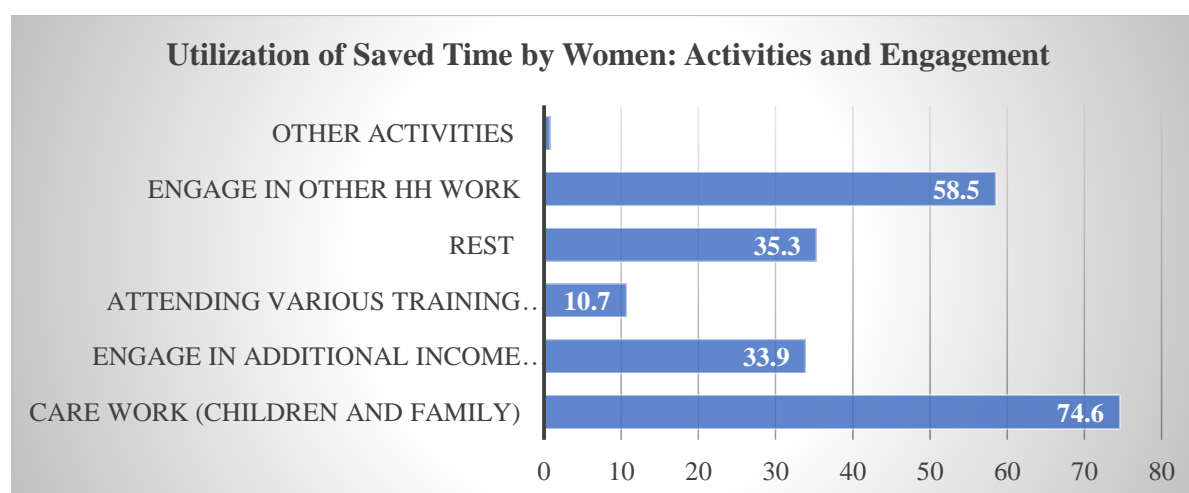
Source: Primary Survey 2024, VVGNNLI.

Mapping Diverse Economic Engagement of Women

The study has discovered an inextricable link between time saved from cooking and women engaging in various activities, of which income generation holds a huge part. The extra time is spent in different productive activities (Figure 4) such as a) care work; b) additional income through various economic activities (such as agriculture and livestock, local stores (kirana shops), sevika or sahika at the Anganwadi centres, working as domestic help, managing dairy farms, engaging more with SHG activities, working as labourers, selling handmade products, sewing and tailoring, starting small homegrown businesses, working part-time at in retail shops, customer care services or hospitality, tutor, content creation, etc.; c) resting; d) attending training programmes; e) engage in other household work. This allowed women to earn Rs. 100 – 150 daily or Rs. 5000 – 10,000 every month. This additional income has improved women's economic status in the family, allowing them to save money for their children's educational and other needs. Notably, alongside their engagement in various economic activities, a substantial portion of women—35.5 percent—reported using the saved time for *rest*, a basic human right that women all too often are unable to enjoy.

“Gas Cylinder Milne ke baad Time ki bachat huye hai. Abb agriculture mei adhik time de rhi hun or Dairy Firm mei bhi full time de rhe hun jisse Income increase Hui hai” – a respondent, 32 years old, Bhopal

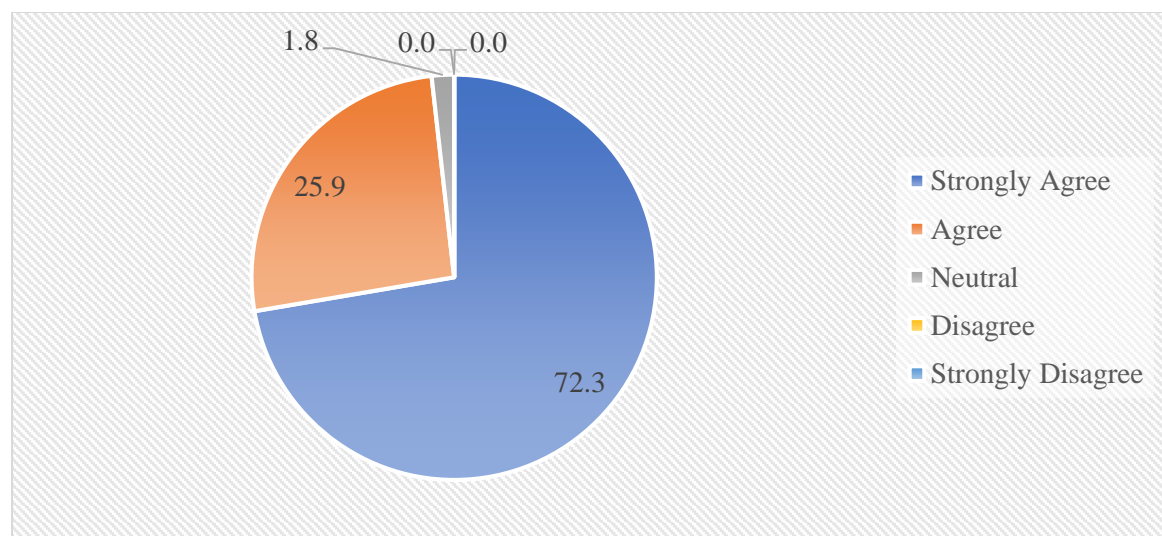
Figure 4: Percent Women Engaged in Various Activities as a Result of Time-Saved due to Shift in LPG, under PMUY.



Source: Primary Survey 2024, VVGNLI.

The economic implications of the Pradhan Mantri Ujjwala Yojana (PMUY) have been emphasized in several studies, which reveal its role in enhancing economic opportunities for women. The scheme has not only enabled women to engage in income-generating activities but has also freed up valuable time, allowing them to focus on childcare, personal recreation, and household tasks such as growing vegetables in their premises (Yadav, Sharma, & Raj, 2020). Moreover, access to clean cooking fuel has contributed to greater involvement of women in household decision-making, especially in matters related to energy use. The significant reduction in time spent collecting traditional fuels has led to increased income potential and household savings, thereby promoting economic independence and empowerment among women.

Figure 5: Percent Women Asserted Feeling Economically More Empowered After Receiving the LPG Connection



Conclusion:

The study emphasized the impact of PMUY in empowering rural women by reducing their time spent on unpaid work and drudgery involved with traditional cooking practices. As cooking became less time-consuming activity it gave women the opportunity to spend the saved time in exploring various income-generating avenues, which enabled them to become financially independent. It further allowed women to spend more time in educating children, entertainment and for leisure. A study conducted by Oxfam in 2019 revealed that women who

had access to the Ujjwala scheme spent, on average, an hour more on paid work and 49 minutes less on care work. The use of LPG has also emerged as a transformative factor in improving health outcomes and reducing economic burdens associated with medical expenses for the beneficiaries and their families.

However, hurdles remain, in terms of continuous and regular usage of LPG as the primary source of cooking in the rural households. The high cost of the refill, even after the subsidy of rupees 300, becomes a big challenge for marginalised/poor households, who often use a mix of LPG and traditional fuel. Besides, there also exists a disparity among States in terms of coverage of the scheme and the timely receipt of the subsidy. The other challenges include cultural preferences, liquidity constraints etc. Further, around 27.7 percent of the respondents highlighted existence of challenges such as – difficult documentation process, inadequate information, difficulty in understanding the processes involved in the application and receipt of the services – which make availing the services, hard.