

UTILIZATION OF PRADHAN MANTRI UJJWALA YOJANA BY RURAL WOMEN**Simple Jain¹ and Neeta Khandelwal²**

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ABSTRACT

The Indian government launched the Pradhan Mantri Ujjwala Yojana (PMUY or Ujjwala Scheme) in May, 2016 to reduce the toil of the Indian rural women who cook on firewood and provide low-emission fuel to households. This study assessed the utilization of services of Pradhan Mantri Ujjwala Yojana by rural women and hurdles confronted by them in utilization of the scheme. This research was carried out in two districts namely Banaskantha and Patan of North Gujarat. Total of four blocks and 16 villages were selected randomly for the study. Twenty beneficiaries of each village were chosen randomly. Thus the total sample was 320 beneficiary rural women. Multistage random sampling method was used for sample selection. Interview technique was used for data collection. Data was analysed by using frequency, percentage. The finding revealed that the utilization of Ujjwala gas stove was low (48.44%) to medium (44.38%). Very few respondents were in high utilization category (7.19%). The main constraints for less utilization was the high refilling cost, less income, making food on normal chulla is cheaper and regular maintenance of equipment (gas stove, regulator) due to its poor quality. Findings further revealed that the refilling cost and income, easy accessibility to conventional fuels had significant negative correlation with the utilization of services of Pradhan Mantri Ujjwala Yojana. Thus there need to implement proper strategies for more utilization of Ujjwala gas.

Keywords : utilization, rural women, gas stove, refilling, pradhan mantri ujjwala yojana.

INTRODUCTION

The Government of India launched Pradhan Mantri Ujjwala Yojana (PMUY) in May 2016. The main aim of the scheme is providing clean cooking fuel to rural households. It deals with the challenge of household smoke exposure and the burden on women (Ministry of Petroleum and Natural Gas, 2016). Pradhan Mantri Ujjwala Yojana encourages the use of Liquefied Petroleum Gas (LPG) as a substitute of traditional biomass fuels such as firewood and cow dung cakes. They are major contributors to household smoke and associated health problems (World Health Organization, 2018).

Indoor air pollution, primarily resulting from the burning of solid fuels in inadequately ventilated kitchens, leads to respiratory illnesses and other health hazards, especially affecting women and kids who usually remain near to cooking spaces. Acknowledging these challenges, PMUY sought to empower women in rural areas by lessening their reliance on conventional fuels, enhancing their health, education, income-generating pursuits etc. (Gould & Urpelainen, 2018).

Despite initial barriers in adopting LPGs such as affordability of refills, lack of awareness, and cultural cooking preferences the implementation of PMUY significantly

improved access to LPG in rural and underserved areas (Jain et al., 2018). The scheme accelerated the transition to modern cooking fuels in regions where accessibility was previously limited (Mukhopadhyay & Revi, 2020). By providing a stove and cylinder, the government made the transition to clean energy more achievable for economically weaker sections (MoPNG, 2019). The effectiveness of the scheme, however, depends largely on the sustained and efficient use of LPG by rural women.

Gujarat, one of India's most industrially progressive states, is also characterised by vast rural, semi-arid, and drought-prone regions where energy access continues to be a pressing concern. While the state's urban centres have steadily transitioned towards modern cooking fuels, large sections of its rural masses use traditional biomass, making the execution of the Pradhan Mantri Ujjwala Yojana (PMUY) particularly significant for ensuring inclusive energy access. Within this broader state context, Banaskantha and Patan districts emerge as critical sites for evaluating the utilisation of PMUY services. Banaskantha and Patan districts of North Gujarat present distinct yet interlinked socio-economic and cultural contexts that make them highly relevant sites for evaluating the effectiveness of the Pradhan Mantri Ujjwala Yojana (PMUY). Both districts are predominantly rural, semi-arid, and agrarian in nature. Despite the government's

interventions, poverty levels, seasonal migration, and vulnerability to drought remain critical issues in these areas. Women, in particular, shoulder multiple responsibilities related to household chores, fuel collection, livestock management, and subsistence work, which makes them the central actors in decisions around cooking fuels. Despite the PMUY's initial success in facilitating LPG access, sustaining its usage remains challenging (Asharaf and Tol, 2024)

This research was taken to evaluate the actual utilization of PMUY services among rural female and identifying obstacles which restrict the utilization of LPG stoves. This research will provide evidence of the ground realities of PMUY implementation which will help policymakers to identify the micro-level economic, cultural, and infrastructural barriers that hinder sustained LPG usage. It helps in refining the scheme for better inclusivity and long-term effectiveness, ensuring that clean energy access translates into tangible benefits such as reduced drudgery, improved health, and enhanced socio-economic empowerment of rural women.

OBJECTIVES

- (1) To study socio-personal characteristics of the rural women
- (2) To study the utilization of Pradhan Mantri Ujjwala Yojana by rural women.
- (3) To find out the constraints faced by rural women in utilization of Pradhan Mantri Ujjwala Yojana.

METHODOLOGY

This study employed a descriptive research design. Multistage random sampling method was used for sample selection. Two districts namely Banaskantha and Patan of North Gujarat were chosen for this research work as it fall under the jurisdiction of Sardarkrushinagar Dantiwada Agricultural university. Two blocks from each district and four villages from each block were selected randomly. Vadgam and Deesa taluka of Banaskantha and Patan and Saraswati from Patan district were selected randomly. Thus, a total of four blocks and 16 villages were chosen for the research work. A list of beneficiaries of Pradhan Mantri Ujjwala Yojana (PMUY) was obtained from concern office and out of all beneficiaries 20 beneficiaries were chosen randomly from each village. Therefore, the total sample was 320 beneficiary rural women. Interview technique was used for collecting data. The interview schedule developed by researcher consisted of three sections viz background information, utilization schedule and constraints faced by rural people in availing benefits of Pradhan Mantri Ujjwala Yojana. The data was analysed by using frequency, percentage, mean and correlation.

RESULTS AND DISCUSSION

Profile of the respondents

Demographic profile of the respondents reveals that more than half of the respondents (54.69%) were between the age of 36-50 years and illiterate (55.31%). More than three fourth of the respondents (79.38%) were belonged to schedule caste and joint families (66.56%) having 5-8 family members (57.50%). 40.63 per cent respondents had agriculture as their primary occupation while 27.19 per cent of respondents were labourers. Respondents (58.13%) were marginal farmers and landless (35.31%). All the respondents had annual income less than one lakh twenty thousand and possessed kachcha house (80.94%). The result was in line with Chaudhary et al.(2022), who found that 68 per cent farmers were income having between Rs.50,000- Rs.1,00,000.

Utilization of services of PM Ujjwala Yojana

General information about utilization of services of PM Ujjwala Yojana

Data presented in Table 1 reveal that 58.75 per cent respondents have Ujjwala connection from less than three years while remaining respondents (41.25%) were having Ujjwala gas connection from more than three years. All the respondents had gas connection registration in their name. Regarding the knowledge of the respondents about procedure of getting Ujjwala gas connection, It is evident that majority of the respondents (71.56%) did not have any knowledge about the procedure of getting Ujjwala gas connection however they reported that they do know what documents are required for getting gas connection. Only 28.44 per cent respondents had knowledge regarding procedure of getting Ujjwala connection. Further it was found that less than half of the respondents (49.69%) got Ujjwala gas cylinders within 19 days of applying for it and 38.44 per cent respondents got it between 19 to 38 days. The ujjwala gas cylinder was received after a month or more time by 11.88 per cent respondents. All the respondents got regulator, gas stove and gas tube alongwith Ujjwala gas cylinder.

It is found from the data that most of the respondents (88.75%) received gas cylinder at their home and 21.88 per cent respondent went to gas agency to bring the gas cylinder. On regular basis most of the respondents (95.31%) went to gas agency for getting cylinder. Regarding the distance of gas agency from beneficiary home, it was found that gas agency was within 5 km for 41.25 per cent respondents whereas 21.88 respondents reported that gas agency was 5 to 10 km far from their home. 18.75 per cent respondents said that the gas agency is more than 15 km far from their home.

Table 1 : Distribution of the respondents according to the general information about utilization of services of PM Ujjwala Yojana (n=320)

Sr. No.	Categories	Frequency	Per cent
I	Time and duration of having gas connection		
	≤ 3 years	188	58.75
	>3 years	132	41.25
II	Knowledge of procedure of getting Ujjwala gas connection	91	28.44
III	Duration of getting Ujjwala gas connection after the application submission		
	≤19 days	159	49.69
	19-38 days	123	38.44
	>38 days	38	11.88
IV	Items received along with gas cylinder		
	Regulator	320	100
	Gas stove	320	100
	Gas tube	320	100
V	Place of getting gas cylinder (FIRST TIME)		
	Received at home	284	88.75
	From Gas Agency	36	11.25
VI	Place of getting gas cylinder (REGULARLY)		
	Received at home	15	4.69
	From Gas Agency	305	95.31
VII	Distance of gas agency from beneficiary home (km)		
	≤5 km	132	41.25
	5-10 km	70	21.88
	10-15 km	58	18.13
	More than 15 km	60	18.75

Behera and Mallick (2024) supported the finding of present study that 41 per cent respondents lacked formal education, which can impede understanding of procedural requirements. They also reported that logistical challenges and administrative delays can affect the promptness of service delivery. Their research indicated that 88.75 per cent of beneficiaries received home delivery of LPG cylinders, while others had to visit distribution centers. However, 95.31 per cent regularly visited gas agencies for refills.

Use of LPG stove

The data presented in Table 2 indicate a persistent reliance on traditional cooking methods among the

respondents as 92.81 per cent respondents were continuing to use the chulha for household cooking activities. Although all the respondents were using gas stove but they used it for few works like preparing tea, boiling milk, making sheera, making wheat chapatti etc. The respondents reported that they use gas stove more in rainy season. The respondents also reported that even when they are in a hurry, they used gas for various work. Only 7.19 per cent respondents used gas stove for all the work on regular basis. The main reason for less use of gas stove was high rates, easy availability of firewood (92.81%), food cooked on chulha is more tasty (95.31%) and distance from gas agency (23.44%).

Table 2 : Distribution of the respondents as per the use of gas stove (n=320)

Sr. No.	Use	f	%
1	Normal Chulha	297	92.81
2	Gas stove	320	100
3	Use gas stove for all the works		
a	Yes	23	7.19
b	No	297	92.81
4	Purpose of use		
a	Preparing tea, boiling milk, making sheera etc.	320	100.00
b	Cooking food during specific seasons	320	100.00
c	All work in all the seasons	23	7.19
d	Preparing food at the time of arrival of guest	320	100.00
5	Reasons for not using gas stove		
a	Expensive	320	100
b	Easy availability of firewood	297	92.81
c	Taste of food is better on chulha	305	95.31
d	Distance from gas agency	75	23.44

*Multiple Responses

Refilling status of gas cylinder**Table 3 : Distribution of respondents as per the refilling status** (n=320)

Sr. No.	Particulars	f	%
A	Get refilled the cylinder after getting it		
1	yes	320	100.00
B	Requirement of gas cylinder in a year		
2	1-4	246	76.88
3	5-8	51	15.94
4	>8	23	07.19
C	Availability of cylinder		
1	Easily	320	100.00
2	Not easily available	00	00

Findings regarding refilling of gas cylinder are presented in Table 3. Data reveal that all the respondents get refilled gas cylinder. Requirement of gas cylinder in a year depict that only 7.19 per cent respondents required more than eight cylinders in a year while 76.88 per cent need one to four cylinder in a year. All the respondents reported that they did not face any problem in getting gas cylinder as it is easily available.

These findings are in line with national trends. The

National Sample Survey (76th Round, 2018) reported that rural households generally consume fewer than six cylinders annually, consistent with the 76.88 per cent of respondents in this study requiring only 1–4 cylinders per year. Also, ICRIER (2018) highlighted that many rural households consume limited LPG refills, primarily due to affordability concerns. The International Energy Agency (2021) noted that high cylinder usage (more than eight per year) is relatively rare in rural areas, supporting the present finding of only 7.19% respondents falling in this category. Kumar (2024) also revealed that the 90 per cent of the beneficiaries have been using LPG for more than two years, the frequency of cylinder refills was low, with 57 per cent not refilling even once in the past year, mainly due to the high cost.

Perceived benefits of using LPG

The data presented in Table 4 highlights the respondents' perceptions of the various benefits associated with the use of gas stoves. The findings strongly support the notion that the transition to gas stoves brings about significant improvements in both convenience and quality of life.

Table 4 : Perceived benefits of use of gas stove

(n=320*)

Sr. No.	Benefits	f	%
1	Good health	226	70.63
2	Good for eyes	239	74.69
3	Quick and easy cooking	257	80.31
4	Save time	291	90.94
5	Less drudgery	289	90.31
6	Utensils get less dirty	320	100.00
7	Convenient to use	252	78.75
8	Less Pollution	142	44.38
9	Does not have to go outside home for firewood	168	52.50

*Multiple Responses

The main benefit of using LPG was utensils get less dirty which was reported by all the respondents (100%). This might be due to that LPG reduces soot and smoke emissions which are commonly associated with traditional biomass cooking methods like firewood or cow dung cakes. Cleaner utensils not only reduce the frequency and effort needed for cleaning but also signify a cleaner indoor cooking environment, contributing to overall hygiene. Most of the respondents (90.94%) reported that LPG Gas stoves save time. Gas stoves provide a consistent and controllable flame, allowing for faster cooking as compared to traditional stoves, which often require time to ignite and maintain. LPG gas stoves are less drudgery-prone which was reported by 90.31 per cent respondents. Traditional cooking methods need tedious

physical labour for collecting firewood, kneeling or squatting for long periods near the stove, and enduring heat and smoke. The use of LPG stoves eliminates the need for such labor-intensive processes, significantly reducing physical strain and improving the cooking experience. Another benefits perceived by the respondents were quick cooking (80.3%) and convenience in use (78.75%). Unlike traditional methods that require preparation and maintenance, LPG stoves offer an immediate and consistent cooking source, which enhances user satisfaction and ease of operation. Regarding health-related benefits, a notable proportion of respondents reported that gas stoves are good for eyes (74.69%) and contribute to good health (70.63%).

In an informal discussion with respondents it was found that smoke is generated by using traditional fuel which create indoor pollution and that is harmful for eyes and overall health. They further reported that LPG stove produces very less or no smoke. More than half of the respondents (52.50%) reported that there is no need to go outside of the home to collect wood by using LPG stoves. It is useful for rural women and girls for their security and health aspects as they have to bear the load of firewood collection and walk long distances which may have security risks.

According to Gould and Urpelainen (2018), gas stoves provide better flame control and reduce meal preparation time compared to traditional stoves. Troncoso and Soares (2017) similarly found that users prefer LPG for its ease of operation, quick ignition, and controllability.

Overall utilization of PM Ujjwala Scheme

Table 5 : Distribution of the respondents in various utilization categories (n=320)

Sr. No.	Categories	f	%
1	Low (1-18)	206	64.38
2	Medium (19-36)	91	28.44
3	High (37-54)	23	7.19

Data regarding utilization of Ujjwala gas, it was found that 64.38 per cent respondents were in low utilization category whereas 28.44 per cent respondents were in medium utilization category. Very few respondents were in high utilization category (7.19%). Several factors might be responsible for the low utilization levels including economic constraints as recurring costs of refilling cylinders may be unaffordable for low-income households, cultural preferences, cooking habits, and the availability of traditional fuels at little or no cost may lead families to revert to or

continue using biomass. Thus, it can be said that the mere providing LPG connections does not guarantee behavioural change or consistent adoption of clean cooking fuels. The high utilization was found very low which depict that rural people had lack of awareness regarding the health and environmental benefits of LPG.

The low utilization rate found in the present study aligns with findings by Gould and Urpelainen (2018) who emphasized the role of economic and behavioral factors in limiting consistent use, despite widespread access provided by the Ujjwala scheme.

Constraints in availing benefits of PM Ujjwala Scheme

Data regarding constraints faced by the respondents in availing benefits of ujjwala scheme are presented in Table 6. It was found that several constraints limit the continued and effective use of LPG among rural women beneficiaries.

The high cost of refilling the LPG cylinder (1.95) was the main constraint reported by the respondents as they have very low annual income. Cooking on traditional chulha is cheaper (mean score 1.89) was another constraint which restrict the use of LPG gas stove. It can be said that cost affects the choice of cooking fuel in low-income families.

They further reported that they have low income (mean score 1.63, rank 3) so they can not afford cylinder for all work whole year. Lack of financial availability in hand also restrict the immediate refilling of cylinder when it is empty (mean score 1.58, rank 4). Lack of financial liquidity forced many rural families to go back to their old ways of cooking food.

The respondents further reported that the food taste is different which cooked on LPG stoves (mean score 0.32) which was not much liked by the rural people. This may also reduce the use of LPG stove. The subpar quality of the equipment supplied through the scheme (mean score 0.74) was another concern that prevented households from utilizing LPG, as the extra expenses for maintenance and repairs could be a financial strain.

Easy availability of conventional fuels (mean score 0.89) and limited doorstep delivery services (mean score 0.43) also limit the use of LPG stoves. The costs associated with transportation to the dealer's location (mean score 0.68) create an added challenge for rural people, who frequently do not have access to personal transportation. Other limitations noted by respondents include the incompatibility of large cooking pots with standard LPG stoves (mean score 0.27), the ongoing maintenance required for gas stoves (mean score 0.21), and the absence of adequate kitchen infrastructure for installing LPG stoves (mean score 0.23). This indicates that

Table 6 : Distribution of the respondents as per constraints faced by them in availing benefits of Ujjwala connection
(n=320*)

Sr. No.	Constraints	Mean	Rank
1	Refilling costs are high	1.95	I
2	Household income is low	1.63	III
3	Chulha cooking is cheaper	1.89	II
4	Food tastes different on LPG stoves	0.32	IX
5	equipment quality is poor (gasstove, regulator and other equipment)	0.74	VI
6	Traditional fuels are easily available	0.89	V
7	LPG application process is lengthy	0.26	XI
8	Doorstep delivery is limited	0.43	VIII
9	Large pots don't fit on gas stoves	0.27	X
10	Preparing cattle feed takes time	0.21	XIII
11	Refilling needs immediate cash	1.58	IV
12	Gas stoves need regular upkeep	0.21	XIII
13	Travel to dealer adds cost	0.68	VII
14	Kitchen lacks proper setup	0.23	XII
15	Fear of cylinder explosion exists	0.17	XV

*Multiple responses

the LPG system does not seamlessly integrate with traditional kitchen practices in rural areas. Though fewer respondents expressed concern about the risk of explosions (mean score 0.17), this issue should not be dismissed as it plays a role in the reluctance to adopt and utilize LPG. The lengthy application process (mean score 0.26) represents another obstacle that can discourage potential beneficiaries, especially those with lower literacy skills.

The time taken to prepare cooked feed for cattle using LPG (mean score 0.21) was the hurdle for few households. They reported that traditional fuels are more suitable for such household tasks.

Association between utilization of PM Ujjwala Yojana and the Constraints faced by the respondents in utilizing services of PM Ujjwala Yojana

Table 7 presents the correlation (r-values) between the utilization of the Pradhan Mantri Ujjwala Yojana (PMUY) and various constraints experienced by the respondents. It is found that certain constraints significantly influenced the utilization of the scheme.

Among the major constraints, a high refilling cost exhibited a very strong and negative correlation with utilization ($r = -0.919$, $p < 0.01$), indicating that as the cost of refilling increased, the utilization of the scheme decreased significantly. Similarly, the view that cooking on a traditional chulha is cheaper ($r = -0.907$, $p < 0.01$), and low income levels ($r = -0.585$, $p < 0.01$) were also significantly and negatively associated with the usage of PMUY services.

Table : 7 Association between Utilization of PM Ujjwala Yojana and the constraints faced by the respondents in utilizing services of PM Ujjwala Yojana
(n= 320)

Sr. No.	Constraints	Utilization <i>r</i>
X ₁	Refilling costs are high	-0.919**
X ₂	Household income is low	-0.585**
X ₃	Chulha cooking is cheaper	-0.907**
X ₄	Food tastes different on LPG stoves	-0.106
X ₅	Equipment quality is poor (gasstove, regulator and other equipment)	-0.056
X ₆	Traditional fuels are easily available	-0.402**
X ₇	LPG application process is lengthy	0.077
X ₈	Doorstep delivery is limited	0.013
X ₉	Large pots don't fit on gas stoves	-0.132*
X ₁₀	Preparing cattle feed takes time	-0.068
X ₁₁	Refilling needs immediate cash	-0.529**
X ₁₂	Gas stoves need regular upkeep	0.039
X ₁₃	Travel to dealer adds cost	0.064
X ₁₄	Kitchen lacks proper setup	0.043
X ₁₅	Fear of cylinder explosion exists	0.016

** Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Other significant negative correlations were observed with the easy availability of conventional fuels ($r = -0.402$, $p < 0.01$) and difficulty in arranging immediate money for cylinder refilling ($r = -0.529$, $p < 0.01$), both of which contributed to lower LPG usage under PMUY. The issue of

large cooking pots not fitting on the stove also showed a weak but significant negative correlation ($r = -0.132, p < 0.05$).

On the contrary, several constraints, including differ in taste of food cooked on LPG ($r = -0.106$), quality of equipment ($r = -0.056$), and lengthy application process ($r = 0.077$), did not show statistically significant relationships with utilization, suggesting these factors had little impact on the use of PMUY services. Interestingly, variables like transportation cost to dealer, lack of infrastructure in kitchen, and concern over cylinder explosion also did not significantly affect utilization, as indicated by near-zero correlation values.

These findings indicate that economic factors such as refilling cost and income, easy accessibility to conventional fuels are the primary constraints impacting the sustained utilization of the PMUY scheme. Addressing these issues is essential for improving the adoption and regular usage of LPG among rural households.

Several studies have corroborated the findings of present study. Mani et al. (2020) found that PMUY beneficiaries were less likely to use LPG due to high refill costs and the ready availability of free biomass fuels. A 2023 study by the Council on Energy, Environment and Water (CEEW) echoed these findings and emphasized that the lump-sum cost of refills was a major barrier, particularly for daily wage earners. Behera and Mallick (2023), in their research in Bihar, identified financial constraints, accessibility of conventional fuels, and practical issues like stove incompatibility with large cooking pots as significant limitations. Similarly, Patil et al. (2021) observed in tribal communities that economic barriers and the perception of traditional chulha as cheaper led to continued fuel stacking. Sofi and Mehrotra (2024) reported that over 85 per cent of households in Jammu and Kashmir still used traditional fuels due to unaffordable refill prices and low awareness.

Association between utilization of PM Ujjwala Yojana and the personal characteristics of the respondents

Table 8 presents the correlation coefficients between the utilization of the Pradhan Mantri Ujjwala Yojana (PMUY) and various personal characteristics of the respondents. Among the all the variables, income showed a strong and statistically significant positive correlation with PMUY utilization ($r = 0.671, p < 0.01$), indicating that higher income levels were associated with greater utilization of the scheme. Similarly, family size also showed a significant positive relationship ($r = 0.238, p < 0.01$), it is that larger families were more likely to utilize the scheme.

Table: 8 Association between Utilization of PM Ujjwala Yojana and personal characteristics of the respondents (n= 320)

Sr. No.	Personal characteristic of the respondents	Utilization
		r
X ₁	Age	-.013
X ₂	Marital status	-.142
X ₃	Education	-.067
X ₄	Caste	.076
X ₅	Family type	.090
X ₆	Family size	0.238**
X ₇	Occupation	.207
X ₈	Income	0.671**
X ₉	Land	.358
X ₁₀	House	.306

** Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Other variables such as landholding ($r = 0.358$), housing status ($r = 0.306$), and occupation ($r = 0.207$) exhibited positive correlations with scheme utilization, though these were not statistically significant at the 0.01 level. These findings imply that asset ownership and employment status may influence access or motivation to benefit from the scheme, albeit to a lesser extent.

In contrast, variables such as age ($r = -0.013$), marital status ($r = -0.142$), and education ($r = -0.067$) showed weak negative correlations with PMUY utilization, it indicated minimal or no association. Caste ($r = 0.076$) and family type ($r = 0.090$) had weak positive correlations, showing limited influence on utilization behavior. The results are in line with Bahera et al. (2024); Natwadia et al. (2024); Meena et al. (2024) who reported that caste, family type, housing type have no significant influence on impact of pradhanmantriujjwala yojana on rural women. It can be said that economic and demographic factors particularly income and family size play a more prominent role in determining the utilization of the PMUY scheme among rural households.

CONCLUSION

The findings indicated that however the rural women had access to Ujjwala gas connections but its actual usage remained minimal. The main reasons were the high cost of refilling, limited household income, the perception that cooking on traditional chulhas is more economical, and the frequent need for repairs due to the poor quality of stoves and regulators. Despite the government’s efforts, rural women continued to rely on unclean cooking fuels. Hence, there is a need to reconsider both the pricing and the subsidy structure for LPG refills in order to make clean energy adoption more feasible

RECOMMENDATIONS

- (1) To promote LPG stove use and reduce reliance on unclean cooking fuels among rural women, it's recommended to either lower cylinder refill prices or increase government subsidies.
- (2) Awareness should be created among rural women in their local dialect to promote the optimal use of Ujjwala LPG stoves.

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CONFLICT OF INTEREST

There is no conflict between the authors.

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