The Bioscan
AN INTERNATIONAL QUARTERLY JOURNAL OF LIFE SCIENCES
20(3) 334-344, 2025
www.thebioscan.com

To Study the Knowledge Levels of Beneficiaries for Pradhan Mantri Ujjawala Yojana in Bundelkhand Region of Uttar Pradesh

Ajay pratap singh[1*], R. K. Doharey[2], N. R. Meena[3], Dr. Abhinav Singh[4], Dr. Ritesh Singh[5], Anurag Dixit[6]

[1, 6]Ph.D. Scholar, [2]Professor & HOD ,[3]Assistant Professor, [4,5]Guest Professor

[1,2,3,4,5,6]Department of Extension Education, Acharaya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya, U.P., India

***Corresponding author – richiebaba666@gmail.com**

https://doi.org/10.63001/tbs.2025.v20.i03.pp334-344

KEYWORDS

Bundelkhand Region, Pradhan Mantri Ujjawala Yojana, knowledge level, 640 beneficiaries, Particular statements

Received on: 10-05-2025
Accepted on: 20-06-2025

Published on: 09-07-2025

ABSTRACT

The present study is going to conduct in the **Bundelkhand** region of the **Uttar Pradesh**, particularly study was conducted in four districts namely; Banda, Jhansi, Mahoba and Chitrakoot during 2024-2025, 640 beneficiaries selected from 4 district, 16 blocks were selected randomly. Thus, total numbers of 16 blocks were selected for the study area. From each block, 4 villages were selected randomly. Thus, total numbers of 64 Villages were selected for the study. From each village, ten beneficiaries were selected randomly. The study aimed to assess the knowledge levels of various Particular statements related to Pradhan Mantri Ujjawala Yojana like Not knowledge about LPG cylinder as a cooking fuel?, Not knowledge about application process for getting connection? etc. The findings reveal that 48.44% of Ujjwala beneficiaries had a medium level of knowledge, followed by 41.56% who exhibited a high level of knowledge regarding the scheme. Only 10.00% of the respondents were found to have a low level of knowledge.

INTRODUCTION

. **"Swacch Indhan, Behtar Jeevan-Mahilaon ko Mila Samman"** is the main theme of the project. Because of the use of different traditional methods of cooking , most of the villagers were facing the different health issues like respiratory problems caused by indoor air pollution due to the use of impure cooking oil. For reducing these problems The Hon'ble Prime Minister of India, **Mr. Narendra Modi** on 1 May 2016 launched a scheme **"Pradhan Mantri Ujjwala Yojana"** with the help of Ministry of petroleum and natural gas to distribute 50 million LPG connections to

women of Below Poverty Line (BPL) families across the whole country. For the first time, the Ministry of Petroleum and Natural Gas is launched a major project called PMUY which aims to provide clean cooking gas like LPG to rural and poor families who were previously using fire, coal, cow dung cake and other traditional cooking fuels. A budgetary allocation of **₹80 billion (US$960 million)** was made for the scheme. The government has allocated Rs. for the financial year 2016-17, Rs. 2,000 crore for nationwide implementation of Ujjwala Yojana. The government also allocated a total budget of **8,000 Rs. crore** for completion of the project in the next three years.

In 2015, 193 member countries unanimously embraced the Sustainable Development Goals (SDGs) to tackle global challenges and foster prosperity for all. Clean cooking is a crucial aspect that directly impacts 10 of the 17 SDGs, highlighting its global significance as a transformative solution **(Kar & Zerriffi, 2018).** Solid cook fuel pollution poses a significant global health risk, especially for Indian women and girls. Despite efforts for cleaner cooking, India's population is exposed to hazards from 700 million open biomass chulhas, which remains high **(Smith & Sagar, 2014).**

Even after 75 years of independence, 120 million Indian households still rely on fossil fuels for cooking (Varghese, 2023). This disproportionately affects underprivileged sections like the poor and rural landless workers, who remain socially excluded from economic development. They have limited access to cleaner fuels like LPG and PNG, as these sources are primarily used in urban and semi-urban areas, benefiting affluent and middle-class families **(Ahmad et al., 2018).** The scheme was replaced by the Ujjwala Yojana 2.0 in 2021. In the Union Budget of 2021–2022, the government announced that 1 crore more connections will be provided under this scheme. The P rime Minister launched the Ujjwala Scheme 2.0 on **10 August 2021** to provide fuel to 1 crore families who were left out of the first scheme.

The scheme was replaced by the Ujjwala Yojana 2.0 in 2021. In the Union Budget of 2021–2022, the government announced that 1 crore more connections will be provided under this scheme. The P rime Minister launched the Ujjwala Scheme 2.0 on **10 August 2021** to provide fuel to 1

crore families who were left out of the first scheme.

Although this scheme has a one time financial assistance for the BPL families but refilling of cylinders much expensive for most of rural communities that,s why the use of polluting fuels remains common, particularly in rural India.

Total connections released under Pradhan Mantri Ujjawala Yojana (as on 23 Dec. 2024) is **10,33,46,498.** Total connections released under Pradhan Mantri Ujjawala Yojana (as on 23 Dec. 2024) is **2,34,89,757**. So the grand total of connections released under this scheme is **12,68,36,255** from the entire country. **(pmuy.org.in)**

BUNDELKHAND REGION:-

Uttar Pradesh is a very large state situated in the northern Part of the country with over 241 million population. It is most populous state in the entire country. It is the fourth – largest Indian state by area. That,s why it is further devided into the four regions **UP east, UP west, UP central** and **UP Bundelkhand**. The present study is going to conduct in the **bundelkhand region** of the Uttar Pradesh. The bundelkhand region of the UP have 7 districts. .Bundelkhand area is located in Central part of India in the Indo-Gangetic plains on the Vindhyan hilly tracts consisting of six districts of Madhya Pradesh (MP) and seven districts of Uttar Pradesh namely **Jhansi**, Jalaun, Lalitpur, **Mahoba**, Hamirpur, **Banda** and **Chitrakoot (Jain *et al*., 2020)**. The soil of the area has been formed by the degradation of the Vindhyan hilly tracts and the deposition of soil carried by the rivers viz., Yamuna, Ken, Betwa, Dhassan, Bairma, Baghain, Paisuni and Southern Tamas. This area affects from several limitations, generally high vulnerability of natural calamities and poor infrastructure, which has made farming productivity very low and uncertain employment.

TOTAL CONNECTIONS IN BUNDELKHAND REGION OF UTTAR - PRADESH

S. NO.	DISTRICT	TOTAL CONNECTIONS
1.	**BANDA**	**2,74,814(Max. 1st)**
2.	**CHITRAKOOT**	**1,31,120(Min. 2nd)**
3.	HAMIRPUR	1,60,644

4.	JALAUN	1,82,810
5.	**JHANSI**	**2,19,594(Max. 2nd)**
6.	LALITPUR	1,94,938
7.	**MAHOBA**	1,19,007**(Min. 1st)**
TOTAL		**12,82,927**

(**Source** : **Ministry of Petrolium and Natural Gas, GOI, Pradhan Mantri Ujjwala Yojana 2.0, pmuy.gov.in**)

MATERIALS AND METHODS

The present study is going to conduct in the **Bundelkhand** region of the **Uttar Pradesh**. **Bundelkhand region**, with its predominantly rural population and socio-economic diversity, provides a better ground for evaluating the effectiveness of the PMUY. Understanding how PMUY beneficiaries perceive the benefits can inform policy refinements and strengthen the scheme's implementation. Four districts namely **Banda** & **Jhansi** (**max 1st & 2nd**) and **Mahoba** & **Chitrakoot** (**Min 1st & 2nd**) will be selected through purposive sampling method based on maximum and minimum released connections of LPGs under PM Ujjwala Yojana, respectively. Since, the data was gathered from beneficiaries in face to face situation hence, local dialect was considered as a prime factor in analyzing the response of PMUY beneficiaries as per the objectives of study. Therefore**, 4 districts** are purposely selected as the locale of the present study. A total of 640 participants, 10 from each village, 64 villages from 16 blocks were chosen by using simple random sampling procedure for the present investigation.

The data was collected with the help of interview schedule prepared for that purpose followed by a focused group discussion. In order to derive meaningful conclusions, the obtained data was put under statistical analysis. Statistical tools used were descriptive statistics (Mean, Range, Standard Deviation, Standard Error, Frequency and Percentage), Correlation coefficient, MPS also used for analysis the determinants of Knowledge level of respondents.

Statistical Methods Used:

The ‘percentage’ and ‘average’ SD and correlation coefficients ‘r’ were used for making simple interpretation.

1. Percentage (%):

The frequency of a particular cell was divided by the total number of respondents or (MPS) in that particular category and multiplied by 100 for calculating the percentage.

2. Averages ($\overline{X}$):

The average ($\overline{X}$)wascalculated by adding the total scores obtained by the respondents and divided itby thetotal number of respondents using the following formula:

$$(\overline{X}) = \frac{\sum X}{N}$$

Where,

$\overline{X}$ = Average or mean

$\sum X$ = Total number of scores obtained by respondents

N = Total number of respondents

3. Standard Deviation (σ):

S.D. is the square root of mean of the squares of all deviations, the directions being measured from the arithmetic mean of the distribution. It is commonly developed by symbol (σ).

$$\text{S.D. } (\sigma) = \frac{\sqrt{\sum d^2}}{n}$$

Where,

σ = Standard deviation

d = Deviation of variables mean

M = Total number of items

4. Correlation Coefficient (r):

The coefficient of simple correlation (r) in a measure of the mutual relationship between two variables that in *i.e.* x and y, where relationship is measured and commonly termed as product movement correlation coefficient and is computed by the following formula:

$$Correl(X,Y) = \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}}$$

Where,

r = Correlation in coefficient

X = mean of all the observation

xi = observation of the variable

Yi = observation of the variables

$\overline{Y}$ = mean of all the observation

Results

Table. 1. The Knowledge level of LPG among the PMUY beneficiaries.

S.No.	Particulars	Agree	Uncertain	Disagree
1.	Do you have Knowledge about LPG cylinder used for cooking purpose in households?	543 (84.84%)	00 (00.00%)	97 (15.15%)
2.	Have you applied for an LPG connection anytime?			
	If yes how long back have you applied?			
A.	less than 3 months	43 (06.72%)	00 (00.00%)	00 (00.00%)
B.	3-6 months	46 (07.19%)	00 (00.00%)	00 (00.00%)
C.	6 months to 1 year	123 (19.22)	00 (00.00%)	00 (00.00%)
D.	More than1 year	428 (66.87)	00 (00.00%)	00 (00.00%)

	If no, why did you not apply for LPG connection till now			
A.	Not knowledge about LPG cylinder as a cooking fuel?	00 (00.00%)	00 (00.00%)	640 (100.00%)
B.	Not knowledge about application process for getting connection?	445 (69.53%)	00 (00.00%)	195 (30.47%)
C.	Process of application is very tedious	365 (57.03%)	120 (18.75%)	155 (24.22%)
D.	Don't have documents of proof/identity needed for application	292 (45.62%)	121 (18.91%)	227 (35.47%)
E.	Don't know how to use LPG Gas stove?	196 (30.63%)	00 (00.00%)	444 (69.37%)
F.	Distribution centre to collect cylinder/submit application is very far away?	325 (50.78%)	83 (12.96%)	232 (36.26%)
G.	Long waiting time to get the LPG connection	435 (67.9%)	20 (03.13%)	185 (28.91%)
H.	Don't like the taste of food cooked in LPG fuel	395 (61.71%)	40 (06.25%)	205 (32.04%)

I.	High initial cost	00 (00.00%)	82 (12.82%)	558 (87.18%)
J.	High recurring cost	640 (100.00%)	00 (00.00%)	00 (00.00%)
K.	Long waiting time to get refill cylinder	532 (83.13%)	27 (4.22%)	81 (12.65%)
3.	Do you have knowledge about health benefits of using LPG gas cylinder?	209 (32.65%)	51 (7.96%)	382 (59.69%)
4.	Do you have knowledge about environmental benefit of using LPG gas Cylinder ?	133 (20.79%)	161 (25.15%)	346 (54.06%)
5.	Do you have Knowledge about the safety measures while using LPG gas Stove ?	105 (16.41%)	163 (25.46%)	372 (58.13%)
6.	Do you have Knowledge about the time saving benefit of LPG gas stove?	352 (55.00%)	180 (28.13%)	108 (16.87%)

A = Agree, U = Uncertain, D = Disagree

4.3. Over all Knowledge Level of PMUY beneficiaries

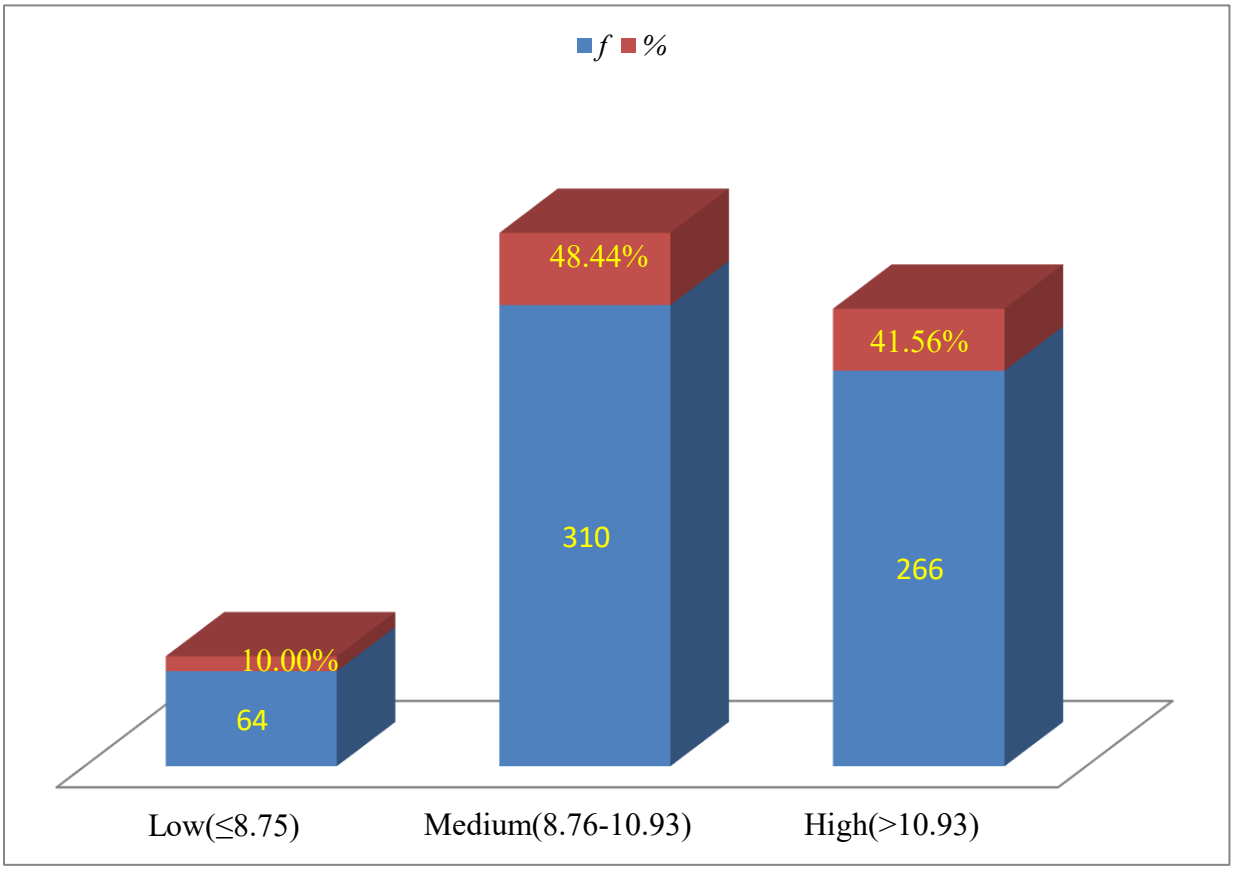
The findings reveal that 48.44% of Ujjwala beneficiaries had a medium level of knowledge, followed by 41.56% who exhibited a high level of knowledge regarding the scheme. Only 10.00% of the respondents were found to have a low level of knowledge. The mean knowledge score was 9.84 with a standard deviation of 1.09.

Table. 2: Distribution of PMUY beneficiaries with respect to their Knowledge level

(n=640)

S. No.	Level of Knowledge	Respondents	
		f	%
1.	Low(≤8.75)	64	10.00
2.	Medium(8.76-10.93)	310	48.44
3.	High(>10.93)	266	41.56
Total		**640**	**100.00**

***f* = Frequency, % = Percentage, Mean - 9.84, S.D. - 1.09**



Conclusion

The findings reveal that 48.44% of Ujjwala beneficiaries had a medium level of knowledge, followed by 41.56% who exhibited a high level of knowledge regarding the scheme. Only 10.00% of the respondents were found to have a low level of knowledge. The mean knowledge score was 9.84 with a standard deviation of 1.09.

REFERENCE

1. Saleh, R.A. and Shettima, M.B. (2016). Analysis of Women Farmer's Participation in Agricultural activities in konduga local Government Area of Bornostate. *Nigeria. American Journal of Environmental Science,* 16(1), 119-125.
2. Yadav, V. (2020). Women Empowerment through Pradhan

Mantri Ujjwala Yojana(PMUY) Scheme in Rajsthan: A Study on Rural Households in Selected *Regional Australian Journal of Management.*

3. Patil, R., Roy, S., Gore, M., Ghorpade, M., Pillarisetti, A., Chakma, J., & Juvekar, S. (2021). Barriers to and facilitators of uptake and sustained use of LPG through the PMUY in tribal communities of Pune district. *Energy for Sustainable Development*, *63*, 1-6.
4. Chindarkar, N. Jain, A. & Mani, S. (2021). Examining the Willingness-to-pay for Exclusive use of LPG for Cooking among Rural Households in India .*Energy Policy,150,*112107
5. Rawat, V. S., & Kumar, M. (2022). Women empowerment through pradhan mantri ujjwala yojana(PMUY) a study of LPG refills. *Review Journal Philosophy & Social Science*, *47*(2), 407-415.
6. Selvam, V., Ashok, D., Rajamanoharan, I. D., Rajalakshmi, V., & Vidhya, K. (2022). Impact of ujjwala yojana scheme and its effect on behavioural changes among rural women. *International Journal of Asian Business and Information Management (IJABIM)*, *13*(1), 1-14.
7. Gaikwad, H., Pandey, S., & Patil, K. (2024). Empowering rural Indian women by clean fuel initiatives: an impact assessment of Pradhan Mantri Ujjwala Yojana. *Cogent Social Sciences*, *10*(1), 2428823.
8. Asharaf, N., & Tol, R.S. (2024). The Impact of Pradhan Mantri Ujjwala Yojana on Indian Households. *Ar Xiv preprint arXiv:2403.*17112.
9. Sahu, V., Tripathi, S. N., Sutaria, R., Dumka, N., Kotwal, A., Ghosh, K., & Singh, R. K. (2024). Assessment of a clean cooking fuel distribution scheme in rural households of India "Pradhan Mantri Ujjwala Yojana (PMUY)". *Energy for Sustainable Development*, *81*,101492.