

## Pradhan Mantri Ujjwala Yojana and its Impact on Life of Rural Women

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### Abstract

India is a developing country where still many people are below poverty line. Some people in villages like labourers and migrant workers who come from other states to work, and the people below poverty line don't even have the capacity to buy LPG connections for their household works. For such people, government of India has introduced "Pradhan Mantri Ujjwala Yojana" for the welfare of the people. This scheme provides subsidized LPG connections for the women below the poverty line. However even after giving these connections, there were huge number of inactive connections which were gradually increasing up to the year 2019. In this paper, the impact of PMUY (Pradhan Mantri Ujjwala Yojana) on the poor and life of rural women were discussed.

**Keywords:** Pradhan Mantri Ujjwala Yojana; LPG; Socio-economic; Women Empowerment; Firewood; BPL households; Rural development.

### Introduction

Fossil fuel consumption has been a severe problem for the whole world. The survey results from the Asian development bank stated that over 12 crores from a total of 30 crore were are deprived of LPG as cooking fuel rather they rely on fire wood, cow dung, cakes, kerosene etc. These conventional cooking fuels have more disadvantages over benefits. WHO stated that household women inhale smoke which equivalent to 400 cigarettes in an hour under unclean fuel

operations.<sup>11</sup> The alternative for fossil fuels is LPG and CNG. So, the government of India has taken the initiative to address the issue and came up with subsidized LPG connections scheme. It not only takes into account the hazardous effects of unclean fuels, but also the environmental degradation due to use of fossil fuels.<sup>4</sup>

The Pradhan Mantri Ujjwala Yojana (PMUY) leads to the rural development by introducing this LPG connections. Household women who spend lot of time in cooking food can be benefited by this fuel and

can use their spare time in doing some works to support their family. With the scheme people will be aware of the environmental concerns that are raised and will eventually opt the safer and sustainable mode for cooking. This brings a change in their mind set and attitude towards the globe and with increased to the society the community development will be successful. This report took into account all the dimensions of the difficulties faced by people to adopt to the scheme. Suggestions are also given in order to improve the potential of the scheme. Furthermore, explanation about next version of the PMUY is demonstrated. Pradhan Mantri Ujjwala Yojana (PMUY) has been launched in the month of May 2016 by our honourable Prime Minister Narendra Modi. The target was 8 crore connections, and by 7th September 2019, 8th crore LPG connection was provided to BPL households in Aurangabad, Maharashtra. Out of which some people seemed to not return for refill and slowly started switching back to unclean fuel and this data was increasing year by year, maybe because of higher cost and less subsidy availability for refill and on August 10th, 2021 PMUY 2.0 was launched and till now approximately 86,915,196 connections were released in which 6,886,184 connections released under PMUY 2.0. The goal of PMUY 2.0 is to arrange connection without any deposit and also providing hot plate and the initial refill with no cost.

The PMUY provides financial support to many people by reducing the total cost to buy an LPG stove by 50%. The people below the poverty line would not have afforded the high initial cost for purchasing an LPG connection. Even after the scheme was implemented there were some cases of not returning for refill was reported due to cost, availability and lack of awareness. This problem should be focused and solved by the government of India and then this scheme will be very successful.

### *Significance of the study*

Many low class people and labourers in India have been using unclean cooking fuel, which can affect their health conditions drastically and also cause some serious injuries due to wooden sticks. The fossil fuel crisis has led to increase in the prices of fuels like petrol and diesel indefinitely. This crisis has also affected the people in our country. As many of the household women were not familiar with cleaner cooking techniques and followed traditional methods, it acted as driving force for India to explore this scheme. Despite the many drawbacks like ocular injuries caused by wooden sticks, respiratory diseases, women still used these methods due to lack of awareness and availability. So, these issues required close attention to solve the problem. The scheme PMUY

played a major role in supporting the women and many labourers for their different household works by providing LPG.

### *Literature Review*

Rahul Ranjan (2020)<sup>1</sup>, describes about the replacement of traditional fuel by LPG. He also mentioned that in the time period of 2016 - 2017, LPG consumption has grown by 9.64% and in the time period of 2017 - 2018, LPG consumption has grown by 6.8%. He also mentioned that the inactive connections were rise to 43.2 million by the year 2019. He also highlighted the free firewood access given to the rural households. He also mentioned that because of availability of firewood in the rural areas, shifting towards LPG has been taking more time. The author also mentions that the economic policy needs to be linked with labour market dynamics in rural economy. He also mentioned that, if the people show more interest towards traditional fuel rather than LPG then, Odisha mining corporations may face huge losses.

SwadhinaShikha Swain, Pulak Mishra (2019)<sup>2</sup>, mainly focussed on the usage of LPG for cooking and its related factors in puri district of Odisha. They also mentioned that women got benefitted by not using traditional firewood method and have got some more time for doing other livelihood generating activities and taking care of children. Despite of women getting benefitted, there was no increase in the number of LPG connections. The authors further stated that, because of cheaper price and easy access to the firewood, problems in refilling the cylinders and lack of awareness of the advantages of using LPG, many people have been using traditional firewood. They also mentioned that proper publicity is needed for increase in no of connections of LPG as the education levels of the rural residents are low compared to that of other areas.

Koustubhkanti ray (2021)<sup>3</sup>, examined the impact of functional factors (process and outcome of the scheme PMUY) based on the customer perception. The author conducted a study in the Bhubaneswar city where he took the data of 630 slum people. The author has used machine learning classifier models like ANN (Artificial neural network), SVM (Support vector machine), logit (logistic regression) etc...and analysed the data based on the performance measure parameter techniques like precision, accuracy rate, kappa coefficient and Matthew's correlation coefficient (MCC) etc. He also stated that ANN model has got comparatively more results in different performance measuring parameter techniques than another machine learning classifier model. ANN model has got 80% accuracy rate, 62% kappa coefficient, 80%

precision and 62% MCC. From the ANN model author has concluded that PMUY scheme has led to the rural development.

Dr. Yaduveer Yadav, Dr. Pradeep Kumar Sharma, Dr. Kiran Raj (2020)<sup>4</sup> have documented the Women empowerment through PMUY (Pradhan Mantri Ujjwala Yojana Scheme) in Rajasthan. In the paper they have stated the details of the scheme along with its advantages. It also represented different categories of women and their involvement in PMUY, in the form of percentages and graphs. The categories considered are demographic profile, marital status and Cast, education background along with their occupation. The paper also categorised the women based on their income levels (Per annum). The study mainly talked about the crucial issues faced by women for using traditional methods of cooking, which in-turn led did not permit empowerment. Some of the critical issues are household pollution, health hazard and environmental pollution. Drawbacks of the scheme discussed, improvement techniques suggested using statistical methods like regression models, avona table.

Dr. Ranjana Mall (2019)<sup>5</sup> conducted a study on 200 women beneficiaries of PMUY live in 2 blocks of (Kurhani & Bochahan) of Muzaffarpur district in Bihar. The survey research represented in tabular format and the study was successful in identifying adaptability and sustainability of LPG with education. The tabular content has information about the women's literacy rate, and surprisingly more than half of the population were literates. The marital status, family income and religion, area of living categories were crucial for the study. The use of the statistical methods (Chi square) was useful for generating relation between different categories and literacy which will lead to shift of conventional cooking fuels to LPG. However, few of them understood the importance of LPG and came back for refills while others did not appear for refuelling.

N Ahmad, Shalaghya Sharma and Dr. Anjani K Singh published on (2018)<sup>6</sup> focussed on benefits of Ujjwala scheme for the people from BPL. A newspaper article on Times of India (2016) showed over 41% of household about 10 crores (among 24 crores) were using fossil fuels for cooking. It is mainly observed in rural areas, with no proper education, awareness and economic development. The beneficiaries addressed were affordability and women's empowerment through the scheme. The paper depicted exactly the social inclusions of the scheme with statements explaining them. The scheme not only benefited the poor but also improved the household women's lifestyle by change in the cooking method. Women

empowerment and increase in literacy rates, which lead to the overall development of society especially in rural areas.

Dr. Shreya Shah, Dr. Mehul Shah (2019)<sup>7</sup> conducted a study about the impact of PMUY on ocular injuries happened due to the use of wooden sticks for cooking. The data was collected from medical record of the accidents before and after launching of PMUY, during which LPG connections are provided free of cost to (BPL) families. And during this duration 8,17,336 new LPG connections were given. 3261 cases of ocular injury were recorded, from which 171 cases were caused due to wooden sticks during cooking. Before launching scheme, the case was 93(54%) and after launching reduced to 78(45%). Ujjwala Yojana proved very beneficial against ocular injuries during cooking amongst the tribal population of western and central India.

Dr. Ranjana Mall and Dr. Sangeeta Rani (2019)<sup>8</sup> conducted this study to know about the reason of a huge amount of benefitted people of PMUY not coming back for refill of cylinder. Muzaffarpur district in Bihar is the place where they performed this study. The data shows that some people were satisfied with the connection and refill but some people were not ok with it. Due to the high cost and low refill subsidy, a large number of beneficiaries were not satisfied with the PMUY scheme and that's why they didn't came back for refill. This paper recommended that increase in refill subsidy, especially in BPL households by the government is required for the success and sustainability of PMUY scheme.

Shubham Aggarwal, SudhanshuKumarb, Manoj Kumar Tiwaria (2018)<sup>9</sup> proposed a decision support system for the purpose of quantitatively analysing the PMUY implementation. This requires various input data that are capacity of distributing by a LPG dealer, subsidy available per connection, how many households, and LPG penetration required. This data presented the upsurge in number of households getting the cylinders over the period of PMUY. And discovered about total number of dealerships required for implementing this policy with the use of sensitive analysis. This DSS can be used to achieve various needs of government by monitoring real time implementation over period of time.

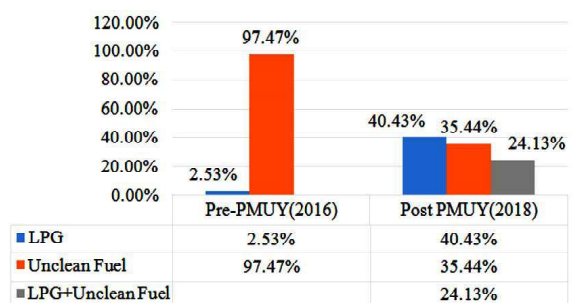
## Methodology

The information regarding the scheme has been collected from its official website (pmuy.gov.in), research papers and from some newspaper articles from the internet. The information for the literature review is collected from various authors and their

research papers based on the scheme's working like providing the LPG connections to various districts in our country, scheme's requirements like only women above 18 years are allowed to apply to this. The data for pictorial representations like bar graphs, line graphs and pie charts have been collected from various news articles which depicts the information regarding the PMUY scheme and its impact and role in the lives of the women, who belongs to below poverty line.

### Data Analysis

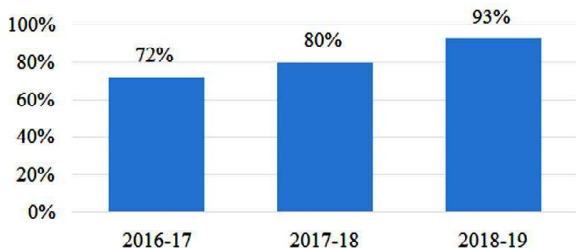
**Bar Graph 1:** PMUY pre and post implementation scenario.



**Source:** CAG Report<sup>15</sup>

The bar graph 1 depicts the data of the survey conducted on 1662 beneficiaries about pre and post implementation. Before the implementation of PMUY, unclean fuel was used in peaks accounting to 97.47% and the use of LPG was very less of about 2.53% only. After the implementation, few years later it was noted that LPG use increased a lot but then also 35.44% reverted back to unclean fuel and 24.13% used both unclean and LPG because of the high cost of LPG refills or availability of traditional unclean fuel in easy way and also for free.

**Bar Graph 2:** LPG coverage from 2016-2019.



**Source:** CAG Report.<sup>15</sup>

The bar graph 2 illustrates the information about the status of LPG connections after implementation of the scheme. This data is about the BPL (Below Poverty

Line) households. The percentage has increased over the years from 2016-2019. In the year 2016-2017 the scheme covered 72% connections, followed by an increase of about 8% in the following year. In the year 2018-19 the scheme was successful in establishing 93% connections compared to previous years i.e., a total of 9.87 crores in which 7.2 crores were due to PMUY.

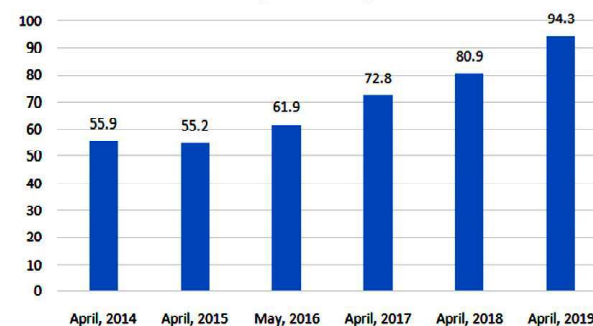
**Bar Graph 3:** Average LPG Refills.



**Source:** The Hindu article.<sup>12</sup>

The bar graph 3 depicts that LPG refilling by the BPL families who got the connection under PMUY scheme was estimated to be about 3-4 refills per year. LPG refilling is recorded to be constantly getting reduced to an average of 2.98 refills per year in 2018-19 from 3.4 refills per year in 2017-18 and the reason may be due to the higher costs and low availability of refill subsidy.

**Bar Graph 4:** Coverage Boost.



**Source:** The Hindu article.<sup>12</sup>

The bar graph 4 illustrates about the statistics before and after the implementation of PMUY. Household LPG connection grew at a very low speed before the implementation of PMUY in May 2016 and after the scheme was implemented total households LPG coverage shown a rapid growth and reached 94.3% by April 2019. Before implementation it was only 55.2 % but after implementation sudden increase is noticed.

**Table 1:** Details of the LPG connections of the states in India.

Name of states/Union Territories	Connections released in numbers
Andhra Pradesh	3,90,998
Assam	34,93,730
Andaman & Nicobar Islands	13,103
Arunachal Pradesh	44,668
Delhi	77,0551
Bihar	85,71,668
Goa	1,082
Chandigarh	88
Daman and Diu	427
Chhattisgarh	29,98,629
Dadra and Nagar Haveli	14,438
Haryana	7,30,702
Gujarat	29,07,682
Punjab	12,25,067
Himachal Pradesh	1,36,084
Rajasthan	63,92,482
Uttar Pradesh	1,47,86,745
Madhya Pradesh	71,79,224
Jharkhand	32,93,035
Uttarakhand	4,04,703
Jammu and Kashmir	12,03,246
Meghalaya	1,50,664
West Bengal	88,76,053
Maharashtra	44,37,624
Karnataka	31,51,238
Tripura	2,72,323
Odisha	47,50,478
Manipur	1,56,195
Lakshadweep	292
Telangana	10,75,202
Kerala	2,56,303
Tamil Nadu	32,43,190
Mizoram	28,123
Sikkim	8,747
Nagaland	55,143
Puducherry	13,566
Grand Total	8,03,39,993

**Source:** MPNRC news portal<sup>14</sup>

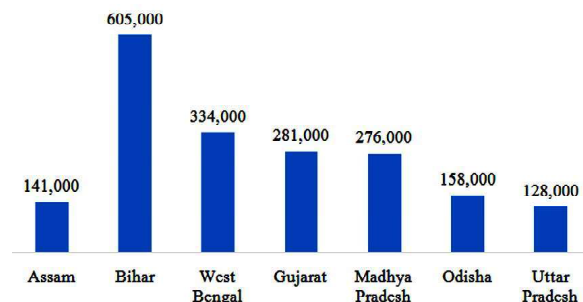
This table 1 depicts that a total of 8,03,39,993 LPG connections were released until 2019 in our country

and this scheme has covered 714 districts throughout the country. Highest recorded in Uttar Pradesh and shockingly Chandigarh has the least connection of count 88 which compared to all other is very less and this may be due to the lack of knowledge about the scheme to the people living in Chandigarh. After the implementation of PMUY 2.0 the total count reached to 86,915,196 as of 15th November 2021.

### PMUY 2.0

Recently our prime minister Narendra Modi has released PMUY 2.0 on August 10th, 2021. Our prime minister has launched this scheme in Uttar Pradesh by video conference. According to the oil ministry officials, already 9.5 million new know your customer (KYC) approvals have been received. KYC is necessary for the conformation of identity and details of beneficiary before starting the services and KYC approval makes the customer one step closer towards the beneficiary.

Bar Graph 4: PMUY 2.0 Beneficiaries List.



**Source:** Business Standard Article<sup>13</sup>

From the bar graph 4, it can be depicted that the number of beneficiaries was high in the state of Bihar where the number is 6,05,000 followed by West Bengal with a total of 3,34,000, Gujarat with 2,81,000, then Madhya Pradesh 2,76,000 followed by Odisha with 1,58,000 counts, then Assam with 1,41,000 and shockingly the least is Uttar Pradesh with a count of only 1,28,000 by mid-September 2021. And by 15th November 2021 the connection under PMUY 2.0 reached a total of 6,886,184.

### Findings

The scheme covered over 36 states, and among all UP was the state with highest number of connections followed by West Bengal and Bihar. These two states also have significantly higher crime rate, illiteracy compared to all other states. So, the scheme had led to the rural development and bought a change in people’s mindset towards well-being. Though after the implementation many people opted for LPG initially some of them reverted back to previous situa-

tion. It is mainly because of refills cost, less availability in contrast with free of cost and easily available unclean fuel.

SC/ST community development along with other category was also achieved in the rural areas which is the root level of development in India. Taking an initiative towards removing the barriers for LPG refills will result in pollution free cooking in the entire country. After establishment of connections the refills per annum had dropped in the following years, this is due to the refill cost and lack of subsidy, this issue was solved by reverting back the subsidies received by the people under non PMUY to BPL families. The LPG connections rose rapidly because of the implementation of scheme, without it this would have taken many years for the shift. To tackle the requirements of the growing population government implemented the second phase of the scheme with similar objectives.

### Summary

Survey results that a large number of poor people are deprived of LPG as cooking fuel rather they rely on fire wood, cow dung, cakes, kerosene etc. And this fossil fuel consumption leading to fossil fuel crisis caused the increase of prices of fuels like petrol, diesel, etc. It was recorded that household women inhale smoke equivalent to 400 cigarettes in an hour under unclean fuel operations. So, there was a need to find alternate safe option, and alternate for fossil fuels is LPG and CNG. Therefore, the government involved and taken initiative to solve this issue and introduced subsidised LPG connection scheme which is called as PMUY (Pradhan Mantri Ujjwala Yojana). PMUY has played a crucial role in the lives of many people of our country by giving LPG connections. This scheme provides financial support to many people by reducing the total cost to buy an LPG stove by 50%. This scheme was very much helpful to SC/ST compared to others. This scheme was introduced in May 2016 and covered 714 districts throughout the country and total number of 8,03,39,993 connections were released by 2019. Highest number of connections were released in Uttar Pradesh with a count of 1,47,86,745 and least in Chandigarh accounting to 88. The usage of PMUY has been gradually increasing since 2016 till now but the LPG refill numbers have not been so great. Some of the barriers to LPG refill include lack of affordability of the cost and lack of awareness among the rural people.

The PMUY first phase has been success. Considering that our Indian government has further introduced PMUY 2.0 recently in the month of august. This

scheme has already received 9.5 million new KYC approvals. Bihar state has been most benefitted in the second phase of this scheme. After the implementation of PMUY 2.0, a total 6,886,184 new connection were provided which makes a total amount of 86,915,196 new connection under PMUY till the date today. The implementation of this program is continuously monitored by Ministry of Petroleum and Natural Gas. PMUY has not only been health secure it has also been very helpful for many families that belong to the below the poverty line category.

### Conclusion

There are many pending problems in some villages like lack of good education, roads electricity, etc. One of the problems is that the poor are not in a condition to afford an LPG connection. Previously rural women were used to gather firewood which was used as traditional fuel. Many rural women were not been having sufficient time to spend with their family and children, as collecting the firewood and preparing food consumed more time. Not only this problem but also, the usage of firewood has been causing severe health problems. The smoke which was emitted during the burning of firewood causes many respiratory problems like irritation in lungs, causes inflammation, causes lung cancer, causes heart diseases and irritation in eyes. There were many ocular injuries getting reported due to wooden sticks during cooking, and the cases were recorded before and after the implementation of scheme and it was noticed that the cases decreased by more than 8%. UjjwalaYojana proved very beneficial against these ocular injuries. Here the Pradhan Mantri Ujjwala Yojana (PMUY) scheme comes into picture. PMUY scheme has resulted in women empowerment and has also bought sustainability to the rural households. This scheme has helped women in spending more time with their children and family. This scheme provides LPG connection which has been an excellent replacement to the traditional fuel without causing any further health issues and which is very safe and sustainable.

LPG connection have been increased but the beneficiaries do not seem to use them and did not come for refill. To overcome this issue, proper awareness among people about the benefits and safety measure about the scheme to the illiterate women and also the government should make an effort increasing refill subsidy for the sustainability of PMUY scheme. Also, the government should provide the details about PMUY like number of connections for every state, number of refills per year, etc., so that people can be aware about the present status of the scheme.

## References

1. Ranjan, R., & Singh, S. (2020). Household Cooking Fuel Patterns in Rural India: Pre-and Post Pradhan MantriUjjwalaYojana. *Indian Journal of Human Development*, 14(3), 518-526.
2. Swain, S. S., & Mishra, P. (2020). Determinants of adoption of cleaner cooking energy: experience of the Pradhan Mantri Ujjwala Yojana in rural Odisha, India. *Journal of Cleaner Production*, 248, 119223.
3. Ray, K. K. (2021). Slum Dwellers Perception Towards Ujjwala Yojana, a Government Lead LPG Intervention Programme in India: An Empirical Investigation. *Journal of Social Inclusion Studies*, 23944811 211020379.
4. Yadav, Y. (2020). Women Empowerment through Pradhan Mantri Ujjwala Yojana (PMUY) Scheme in Rajasthan: A Study on Rural Households in Selected Region. *Australian Journal of Management*, Forthcoming.
5. Mall, R. (2019). Effect of education on adaptation & sustainability of Pradhan Mantri Ujjawala Yojana. *Gen*, 5(06.58), 166.
6. Ahmad, N., Sharma, S., & Singh, D. A. K. (2018). Pradhan Mantri Ujjwala Yojana (PMUY) step towards social inclusion in India. *Int. J. Trend Res. Dev*, 5, 46-49.
7. Shah, S., & Shah, M. (2019). Impact of Prime Minister Ujjwala Yojana on ocular trauma in the tribal belt of India.
8. Mall, R., & Rani, S. (2020). Women's satisfaction with Pradhan Mantri Ujjwala Yojana (PMUY). *Gen*, 16, 14-55.
9. Aggarwal, S., Kumar, S., & Tiwari, M. K. (2018). Decision support system for Pradhan Mantri Ujjwala Yojana. *Energy Policy*, 118, 455-461.
10. Kumar, P., Dover, R. E., Díaz-Valdés Iriarte, A., Rao, S., Garakani, R., Hadingham, S., and Yadama, G. N. (2020). Affordability, Accessibility, and Awareness in the Adoption of Liquefied Petroleum Gas: A Case-Control Study in Rural India. *Sustainability*, 12(11), 4790.
11. Poverty in India. Asian Development Bank. Retrieved 16 August 2017.
12. THE HINDU Article, SumantSen, "Data | How effective has the Pradhan Mantri Ujjwala Yojana been". December 19, 2019. <https://www.thehindu.com/data/data-how-effective-has-the-pradhan-mantri-ujjwala-yojana-been/article30338388.ece>
13. Business Standard article, Twesh Mishra, "PMUY 2.0 nears 10 mn LPG connections target, 9.5 mn KYCs already in place". September 23, 2021. [https://www.business-standard.com/article/economy-policy/pmuy-2-0-nears-10-mn-lpg-connections-target-9-5-mn-kycs-already-in-place-121092200602\\_1.html](https://www.business-standard.com/article/economy-policy/pmuy-2-0-nears-10-mn-lpg-connections-target-9-5-mn-kycs-already-in-place-121092200602_1.html)
14. MPNRC news article, MPNRC editor, "PM UjjwalaYojana list 2021 Check @pmuy.gov.in Beneficiary Status", November 7, 2021 <https://www.mpnrc.org/pm-ujjwala-yojana-list-pmuy-status/>
15. Comptroller and Auditor General of India (CAG) on Pradhan Mantri Ujjwala Yojana, Chapter 6: Transition of BPL households to LPG, 2019 [https://cag.gov.in/uploads/download\\_audit\\_report/2019/Chapter\\_6\\_Transition\\_of\\_BPL\\_households\\_to\\_LPG\\_of\\_Report\\_No\\_14\\_of\\_2019\\_Performance\\_Audit\\_of\\_Pradhan\\_Mantri\\_Ujjwala\\_Yojana\\_Ministry\\_of\\_Petroleum\\_and\\_Natural\\_Gas.pdf](https://cag.gov.in/uploads/download_audit_report/2019/Chapter_6_Transition_of_BPL_households_to_LPG_of_Report_No_14_of_2019_Performance_Audit_of_Pradhan_Mantri_Ujjwala_Yojana_Ministry_of_Petroleum_and_Natural_Gas.pdf)