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AN IMPACT ASSESSMENT OF LPG SHORTAGE ON DHOBIS OF MUMBAI'S MAHALAXMI DHOBI GHAT

Digvijay Ghadge

ABSTRACT

This research investigates the socio-economic and operational crisis at Mumbai's Mahalaxmi Dhobi Ghat triggered by the 2026 Liquefied Petroleum Gas (LPG) shortage. As the world's largest open-air laundry and a Grade II B Heritage Site, the Ghat has transitioned from manual labour to a mechanized industrial hub. This evolution has created a profound "energy vulnerability," as the site now relies heavily on LPG for drying, boiling, and ironing. Geopolitical tensions in West Asia, specifically the Iran-US-Israel conflict have disrupted supply chains, causing commercial cylinder prices to surge from ₹1,692 in February to over

₹1,835 in March 2026, with black-market rates reaching ₹3,000. The study utilizes an impact assessment framework to analyse how this scarcity has reduced machine capacity to 40–50%. This operational paralysis has created a critical service backlog for Mumbai's hospitality and healthcare sectors.

Findings suggest that the current decentralized, cylinder-based fuel model is unsustainable against global market volatility. The study recommends an urgent shift toward Piped Natural Gas (PNG) infrastructure to ensure price stability and supply continuity. Furthermore, it proposes the integration of solar-grade drying sheds and high-efficiency electric steam irons to diversify energy inputs. Finally, the paper advocates for government-backed "livelihood subsidies" and cooperative credit funds to shield these traditional artisans from future fuel shocks. Implementing these transitions is essential to prevent industrial obsolescence and preserve the historical and functional integrity of this iconic urban institution.

Keywords: *Mahalaxmi Dhobi Ghat, LPG Shortage, Energy Vulnerability, Piped Natural Gas (PNG)*

INTRODUCTION

The global energy landscape is increasingly focused on identifying fuel sources that balance high calorific value with environmental compatibility. Liquefied Petroleum Gas (LPG) has emerged as a critical component in this transition, serving as a versatile and readily accessible energy vector for both developed and emerging markets. The main feature of it is that it's clean, efficient & portable energy source, which can be used for many different purposes by theconsumers around the globe. As a by-product of natural gas processing and crude oil refining, LPG offers a lower carbon footprint than traditional solid fuels. It transforms into a liquid, when it is exposed to cooling or modest pressure. In the form of liquid, it can be easily stored and transported. It is stored in steel or aluminium containers, after cooling or pressurising. Furthermore, the burgeoning sector of bio-LPG derived from renewable feedstocks is positioning this fuel as a long-term participant in the circular economy.

India is one of the world's largest consumers of LPG, with a distribution network that has seen a massive shift toward rural penetration. In India, it is majorly used in houses for cooking. It has been accelerated by the Pradhan Mantri Ujjwala Yojana (PMUY). As of February 2026, PMUY has released over 105 million connections to underprivileged households. Domestic supply typically comprises of 14.2 kg cylinders, whereas a 5 kg variant (Free Trade LPG) is utilised by migrant laborers and low-income urban groups. Commercial LPG is distributed in larger cylinders of 19 kg and 47.5 kg respectively. LPG is used in restaurants, hotels, dhabas, and also as an alternative to petrol and diesel in the transport sector, particularly in three-wheelers and passenger cars in urban centres like Bengaluru, Ahmedabad, and Pune.

LPG Nation, State & City wise Comparative Statistics (March 2026)

Metric	India (National)	Maharashtra (State)	Mumbai (City)
Domestic Price (14.2 kg)	₹913.00	₹912.50	₹912.50
Commercial Price (19 kg)	₹1,884.50	₹1,836.00	₹1,836.00
Active Domestic Connections (Approximate)	33.37 Crore	3.2 Crore	Data varies by ward
Annual Consumption (Projected)	33–34 MMT	11.2% of national sales	High urban density focus
Urban Penetration	88.6%	88.1% (Urban areas)	95%+ (LPG + PNG)

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Rate (Approximate)			
Key Supply Sources	60% Imports (West Asia)	Local Refineries (HPCL/BPCL)	Mumbai Port & Pipelines

Source: *Data Compiled by Researcher using Google Gemini AI.*

Ongoing tensions in the West Asia region (Iran-US-Israel conflict) have interrupted key shipping routes of LPG, specifically the Strait of Hormuz, delaying LPG shipments to India. Public Sector Oil Marketing Companies are prioritizing domestic supply and restricting commercial supply following a directive aimed at reducing demand. In Mumbai, this shortage of LPG has triggered spike in coal prices. The price hike of LPG in Mumbai from February 2026 to March 2026 is huge. For domestic cylinder of 14.2Kg, the price in February was Rs. 852.50, which has become Rs. 912.50. Whereas for commercial cylinder of 19Kg it has gone up from Rs. 1692 to Rs. 1835, as of 7th March, 2026.

The Dhobi community is known by various names across India, including Rajaka, Dhupi, Rajak, Diwakar, and Dhobi, reflecting the diversity of the region. Ritual life aligns broadly with Hindu *samskaras*, with birth and death observances incorporating purification rites and invocations of deities to mark auspicious transitions. Distinctively, Dhobi customs emphasize the communal washing of ritual garments as a symbolic act accompanying these life-cycle events. Funeral practices generally follow orthodox Hindu norms of cremation, followed by post-death *shraddha* ceremonies intended to honour ancestors and ensure spiritual continuity within the lineage. From a centre-based perspective, the occupational role of the Dhobi community can be understood as an integral component of localized sanitation systems in pre-industrial and rural India. Community life among the Dhobis is closely organized around shared occupational spaces, particularly Dhobi *Ghat*s, which function not only as sites of collective labour but also as informal centres for social interaction, dispute resolution, and the residential areas. Mahalaxmi Dhobi *Ghat* in Mumbai is one of the largest and most iconic, renowned for its scale of operations and historical significance. Mahalaxmi Dhobi *Ghat*, commonly known as the Dhobi *Ghat* of Mumbai, is an integral part of the city's cultural and historical fabric.

Socio-Economic Profile of Mahalaxmi Dhobi *Ghat*

Feature	Details & Data
Year of Establishment	1890 (Pre-Independence Era)
Heritage Classification	Grade II B Heritage Site
Ownership	Brihanmumbai Municipal Corporation (BMC)
Legal Status of Workers	Tenants of the BMC
Governing Body/Liaison	Dhobi *Kalyan & Audhyogik Vikas* Co-operative Society Ltd.
Number of Washing Stones	731 (Each allocated to a specific Dhobi)
Monthly Rent per Stone	₹293 (Paid to the BMC)
Global Recognition	Guinness World Record (World's largest open-air laundry)
World Record Achievement	496 Dhobis hand-washing simultaneously (March 8, 2011)

Source: *Data Compiled by Researcher*

REVIEW OF LITERATURE

Pandey, I. (2018). This article is about how Dhobi ecosystem survives and sustains in Mumbai. It is the result of a detailed study of system of Mahalaxmi Dhobi *Ghat.* It is the home for around 7000 people. Each one of them involved in processes like flogging, scrubbing, bleaching and drying clothes. The author has explained in detail working of Mahalaxmi Dhobi *Ghat*.

Chaudhary, S. (2017). This article highlights the "order in chaos," specifically focusing on the spatial optimization of drying lines and the rigorous coding system used for garment identification. This alphanumeric tagging serves as a fail-safe mechanism, ensuring delivery accuracy that rivals modern automated systems. Ultimately, these studies frame the Dhobis' methods as a pinnacle of traditional process management, proving that efficiency is born from systemic discipline rather than technological dependency.

Mittal, N., Agarwal, R., & Selen, W. (2018). This research explores how the Indian public sector modernized its LPG supply chain to move beyond old-fashioned monopolies. By using digital tracking (ICT) and re-designing delivery routes, the system now better serves diverse customer needs while reducing wasteful

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subsidies. The study proves that even massive government systems can become efficient and value-driven through smart process re-engineering.

Sharma, A., Parikh, J., & Singh, C. (2019). The researchers identified that while the PMUY subsidy acts as a vital trigger for adoption, long-term transition is heavily influenced by behavioural factors like the duration of LPG ownership. This study also reveals that income alone doesn't guarantee a switch in regions where "free" biomass is abundant, suggesting that doorstep delivery services are crucial for displacing solid fuels.

OBJECTIVES OF THE STUDY

1. To identify LPG usage by Dhobis of Mahalaxmi Dhobi *Ghat*.
2. To assess impact of LPG shortage on Dhobis of Mahalaxmi Dhobi *Ghat*.
3. To provide suggestions and actionable recommendations.

Dhobis of Mahalaxmi Dhobi *Ghat* & their LPG Usage

The primary or the main usage of LPG (Liquefied Petroleum Gas) at the Mahalaxmi Dhobi *Ghat* is to modernise and speed up laundry operations that traditionally relied on manual labour and wood-fired heating. The largest area of LPG consumption is mechanical drying. Around 50% of the total Dhobis of *Ghat* use commercial drying machines. This technique is the most useful in Mumbai's monsoon, when sun-drying is hardly possible. For medical & hospitality clients, LPG – powered units are used for boiling water, which is further utilised for removing stubborn stains and linens sanitising. Ironing operations often rely on LPG to maintain the consistent high temperatures required to press garments. LPG is also utilised in smaller scale services such as bleaching, dyeing clothes, where controlled heating is required. The transition from traditional methods to LPG, enabled the Dhobis to process over 1,00,00 clothes daily. Ultimately, LPG is the primary energy source for the Dhobis of the *Ghat*.

Effect of LPG Shortage & Mahalaxmi Dhobi *Ghat*

The known impact of LPG shortage in Mumbai, is on food and transport industry, but it has also impacted Dhobis of Mumbai's Mahalaxmi Dhobi *Ghat*. The war effects of the West Asia, have now reached to Mumbai's Dhobi *Ghat*. There are currently three operational *Ghats* across Mumbai, Tardeo, Mahalaxmi & Colaba. LPG supply disruptions have affected these areas. The scarcity has forced many Dhobis to buy cylinders from black market at inflated rate. The commercial cylinder which used to cost Rs. 1500 – 1700, is now being sold at Rs. 2500 – 3000 in black markets. Every Dhobi uses at least one to two cylinders daily for their operations. The shortage has mainly affected drying of clothes and the delivery is getting delayed than usual. Due to this delay, many customers are reluctant to give clothes at Mahalaxmi Dhobi *Ghat*. The Dhobis of Mahalaxmi Dhobi *Ghat*, are sometimes taking extra load by supporting the Colaba Dhobi *Ghat*, because of this shortage.

Impact of LPG shortage: Statistical & Operational Overview

Category	Normal Operations	During 2026 Shortage	Key Impact
Machine Capacity	90% – 100%	40% – 50%	Operational Paralysis: Half of the industrial dryers are non-functional, stalling 50% of total work.
Daily Garment Output	1,00,000+ pieces	~50,000 pieces	Service Backlog: Massive delays for critical clients like Mumbai hospitals and major hotels.
Fuel Sourcing Time	1–2 hours	12–24+ hours	Labor Inefficiency: Dhobis spend entire workdays hunting for cylinders instead of washing.
Sanitisation (Bhattis)	Boiling Water Used	Cold/Warm Only	Hygiene Risk: Inability to boil water prevents proper disinfection of medical and hotel linens.
Drying Method	Rapid Machine Dry	Slow Sun-Drying	Weather Vulnerability: Without gas dryers, laundry is at the mercy of rain, dust, and slow turnaround times.

CONCLUSION & SUGGESTIONS

The transition of the 136-year-old Mahalaxmi Dhobi *Ghat* from a purely manual open-air laundry to a mechanized industrial hub has created a profound and precarious dependency on Liquefied Petroleum Gas

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(LPG). This impact assessment concludes that while LPG initially offered a path toward modernization, efficiency, and improved hygiene standards, the current supply crisis of 2026 has exposed a critical energy vulnerability that threatens the economic survival of Dhobis and the broader supply chain of Mumbai's essential services. Dhobis resorting to black markets for LPG cylinders are paying almost the double amount than usual. They are caught into a vicious trap of double expenses and half productivity due to delays. This impact extends beyond economics. The inability to consistently boil water for bleaching and disinfection due to fuel scarcity directly compromises the hygiene of hospital linens. The forced return to traditional sun-drying is not a viable fallback for a modern megacity; it is slow, space-constrained, and highly susceptible to Mumbai's dust and monsoon rains. This creates a delivery backlog that ripples through the city's hospitality and medical sectors.

In conclusion, the Mahalaxmi Dhobi *Ghat* is at a breaking point. The "LPG Era" of the *Ghat* has reached its limit due to high costs, safety risks associated with cylinder storage, and supply chain volatility. The assessment highlights that the current model of decentralized cylinder usage is no longer compatible with the scale of operations. The future of this heritage site depends entirely on shifting from a volatile, cylinder-based fuel economy to a stable, regulated energy infrastructure. Without the immediate integration of Piped Natural Gas (PNG) and a diversification into renewable pre-heating technologies, the world's largest open-air laundromat risks industrial obsolescence and the displacement of thousands of traditional artisans.

As requested by the Dhobi Welfare Society, the government should prioritize finishing the Mahanagar Gas pipeline. PNG is generally more stable in price and supply than LPG cylinders and removes the logistics of transporting heavy tanks. To reduce reliance on gas-powered dryers, authorities could install industrial solar-grade drying sheds. These use thermal energy to dry clothes faster than open-air hanging while remaining immune to fuel shortages. Transitioning from gas-powered irons to high-efficiency electric steam irons (supported by subsidized industrial electricity rates) could provide a backup during gas shortages. Since the Dhobis operate as a collective cottage industry, the government could provide a "livelihood subsidy" on commercial cylinders during periods of extreme price volatility, similar to subsidies provided to farmers for fuel. Create a dedicated cooperative credit society fund that Dhobis can tap into during supply shocks to prevent them from having to send families back to villages or pull children out of school.

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