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**Oil and the Everyday in Colonial and
Independent India
(1880–1975)**

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Oil and the Everyday in Colonial and Independent India (1880–1975)*

Sarandha Jain

Abstract

The discovery of petroleum and assembling its industry in India is a less told story. Thus far, the few narratives on oil¹—with humble beginnings in the colonial period to becoming a critical energy resource in Independent India—have explained it in terms of individual heroism, innovation, infrastructural development and high politics. Instructive as these writings are, the story of oil in the complex shaping of social worlds and its long cultural shadows in the Indian Subcontinent have escaped rigorous and wholesome academic scrutiny. Such triumphalist histories have downplayed the impact of oil as an exemplary ingredient in making everyday modern life and politics in India. Beginning with meeting modest needs such as lighting and lubrication, petroleum was steadily used to displace coal as the energy monarch. Oil consumption gradually overwhelmed everyday subsistence of Indians, even as they moved from being subjects of empire to becoming citizens of an independent republic. By discussing two snapshot moments—oil shortages in British India during the two World Wars, and the oil shock of 1973 in Independent India—I aim to explore how petroleum usage in the everyday becomes a conceptual vantage from which to understand politics, technology, infrastructure and the writing of modern energy histories.

For long, scholarship on technology in South Asia has entertained a dichotomy (perhaps unwittingly) between big ‘conquest’ technology such as the railways and the telegraph, and small ‘everyday’ technology, such as sewing machines and bicycles.² Here the former are tied up with imperial politics and the latter with everyday-life worlds of the subjects, as if to say that the former did not constitute everyday experiences and the latter were always outside the logic of empire. The narrative of subjugation

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¹ The words ‘petroleum’ and ‘oil’ are being used interchangeably in this paper.

² See David Arnold. *Everyday Technology: Machines and the Making of India’s Modernity*. Chicago: University of Chicago Press, 2013; Daniel Headrick. *The Tools of Empire*. New York: Oxford University Press, 1981; Michael Adas. *Machines as a Measure of Men*. New Delhi: Oxford University Press, 1990; Deepak Kumar and Roy Macleod. *Technology and the Raj*. New Delhi: Sage Publications, 1995; Irfan Habib and Dhruv Raina (eds). *Social History of Science in Colonial India*. New Delhi: Oxford University Press, 2007; Zaheer Baber. *The Science of Empire: Scientific Knowledge, Civilization, and Colonial Rule in India*. New York: State University of New York Press, 1996.

characterized writings on big technology, and small technologies were considered to be welcomed by the subjects and made a part of the everyday. By limiting both kinds of technologies in rigidly separated domains, such an argument tends to portray them as operating in watertight compartments.

In this paper, I partially aim to unsettle this dichotomy by presenting a narrative on oil showing that big and small technology worked in tandem. Oil was organized by big technology and imperial politics (albeit haphazardly), but simultaneously permeated into and refashioned many aspects of the daily life of common people, via small everyday technologies. Big and small technologies were not detached in their operation, politics or genesis. Imperial politics and the everyday-life worlds of common people were therefore brought to interact and shape each other in profound ways.

By eventually turning into a daily necessity for common people, oil cannot be understood as an imperial tool alone. It seems that petroleum was built in a manner that ended up attributing to it the capacity to shape more than imperial possibilities. The context in which it emerged was not entirely top-down or steered by the state and this is probably what enabled it to shape day-to-day life in India in profound ways. This context was an admixture of chance incidents, individual desires, local conditions, dialogues, and debates which intermeshed with colonial calculations and motives that tended to rein in this infrastructure and manoeuvre its development. Although the widespread use of petroleum by common people was a calculated move, promoted by the industry and the state, once it became a household item it was no longer a colonial instrument. Colonial subjects, later Indian citizens, exercised a good amount of agency over this product, beyond the command of the state, and expressed a great demand for it, altering the meanings attributed to it by the state. The use and politics of this substance therefore, were shaped partially by the receiving end.

The many faces of oil

‘Starting with the oil can and extending to the oil tanker, global trade of crude had become a worldwide system’.³ It is fascinating to study how a substance ‘left largely undisturbed and satisfying no identifiable need’ for the greater part of history, got refashioned in a way that more and more uses for it radiated outward to create a paradigmatic shift in the social, economic and political life of the world at large. How does oil, from being a mere resource become a ‘critical actor’ in shaping world politics?⁴ What was its journey from a nearly useless product to the lifeblood of a nation state?

Before the twentieth century, petroleum’s primary use was kerosene for lighting, and occasionally for lubrication of machines. It was widely distributed for this purpose everywhere in the world in tin cans.⁵

³Timothy Mitchell. *Carbon Democracy: Political Power in the Age of Oil*. London: Verso, 2011, p. 64.

⁴Brian Black. *Crude Reality: Petroleum in World History*. New York: Rowman & Littlefield Publishers, 2012, pp. 1, 7.

⁵Mitchell. *Carbon Democracy*, p. 31.

Oil use began in India in the latter decades of the nineteenth century. It was being imported as well as locally produced by the 1880s. The British Indian government was at this time resistant to the idea of putting oil to uses other than lighting. It was almost obsessed with this purpose and was not interested in using oil as a fuel or a lubricant as was being done in several other nations. Reports revealed that Indian oil was heavy and better as a fuel and lubricant than as kerosene for which light American oil was considered most superior. In the eyes of the British administration this was a 'great falling off from expectations', and reason enough to reconsider granting leases to companies digging for oil. What purpose would all that petroleum serve if it couldn't be used for illumination? Why should the government grant concessions for developing this industry if it couldn't serve the most important purpose? These questions were being raised by departments within the government, even when the railways expressed great need for more fuel.⁶

By the 1880s kerosene was being used in lighthouses on the Coromandel Coast at considerable saving of expenses, requiring less attention and providing far better lighting than coconut oil, which was so far being used for the purpose. With this success, its use spread to the lighthouses of Karachi (now in Pakistan) and other parts of British India as well.⁷

So far oil had not been envisaged by the British Indian government as a means of propelling the empire. It was a subsidiary substance and could in no way displace king coal as the global fuel. The only substances it was imagined it could replace were animal and vegetable oils, which were not used as fuels. It was only when petroleum began to be used as fuel did it become a colonial infrastructure and began to be used like the railways or irrigation for spreading the empire's tentacles. This shift in the significance of oil, from illuminant to lubricant to fuel is what gave it a completely new identity and meaning. Alongside, with the abundance of petroleum in multiple aspects of people's lives, Indian society began to depend upon it more and more. Its use for illumination, which initially raised the value and importance of crude oil globally, over time, turned to marginal use.

In the early 1880s when the Punjab oil fields were being explored, the M.D., Chemical Examiner of the Punjab wrote to the Government of Punjab informing him of the various uses oil could be put to for the government's benefit. His note said that petroleum was found to prevent oxidation of metals and had been found useful for lubrication of machinery in America. It was also being used as a fuel in steamers and for heat and light generation. He mentioned its usefulness in preparing paints, varnishes, and benzene, and as a substitute for turpentine as well as for pit oil in tanning as it produced better leather. He noted that it was recommended in medicine to cure skin diseases. And finally, it could also be used for water proofing of buildings.⁸ The USA and Russia were therefore already making multiple uses of this substance and that was catching on rapidly in other parts of the globe, making oil the most utilised product and

⁶ Revenue and Agriculture Department, Minerals Branch, Proceeding no. 18-22. (1890, April). New Delhi: NAI.

⁷ PWD, Railway Stores Branch, Proceeding no. 2679-2683, Part B. (1889, December). New Delhi: NAI.

⁸ PWD, Civil Works Branch (Coal and Iron), Proceeding no. 13-16, Part A. (1883, October). New Delhi: NAI.

most important discovery of the nineteenth century. By the 1890s, the principal use for oil in these countries was in manufacturing.⁹

When the PWD inquired into the use of oil as fuel in the early 1880s, it was told to refer to the journals *Engineer*, *Engineering*, *Herapath* and *Scientific American*. The correspondence between government officials records a discussion on recent methods for burning liquid fuels, some of which had already been patented. It debated the advantages of liquid fuel over solids like coal in metallurgical operations—a notion with great currency at the time—as there was less waste of heat, it required less space, air and time, produced less smoke and greater speed, had less weight, and the fire from it was more controllable. It was concluded in this correspondence that information on its uses must be circulated, as in Burma (now Myanmar) and Assam, much oil had been drilled out but officials did not know what to do with it.¹⁰ It is possible therefore that oil's use as a fuel in British India began first in the Punjab and later spread to the east.

By 1898, petroleum was being used as a lubricant in the railways in large quantities. Castor oil was the standard lubricant at this time but petroleum lubricants were much cheaper. Most of them were being supplied by Standard Oil in USA.¹¹ Both, the shipping and the railway industries were now discovering the prospects of using oil as fuel and not just as a lubricant. The media was routinely reporting the triumphs of such experiments in Europe and what promises they held for expansion of European empires.¹² Steamers were gradually shifting to oil for fuel.¹³

Petroleum now oiled not just the empire's machine but also found its way into the everyday lives of common people through machines they used and substances it was a vital ingredient of, such as waxes, paints, and medicines and so on.¹⁴ As cars made their way into India, so did petrol. It was categorized as 'dangerous petroleum' and the Indian rules made its storage and use by private car owners prohibitive. At that time not more than 40 gallons of dangerous oil could be transported or stored at one time. This hampered trade of petrol for cars greatly. Therefore discussions were on, in the early twentieth century, between officials of Bombay and Bengal regarding import and storage of petrol for cars. Some officials suggested a relaxation of rules and to follow the English rules, as they had more experience with petrol and cars. Seeing that the use of petrol and motor cars had increased greatly, the Home Department agreed that current rules were not suitable which hampered the growth in the trade of both oil and automobiles. The department wrote to local governments to draft rules according to central guidelines which recommended that 60 gallons could be stored in one place at one time under special licence; that storage should be in large tanks; that precautions must be taken by car owners while storing this petrol in separate buildings constructed

⁹Black. *Crude Reality*, p. 59.

¹⁰ PWD, Civil Works Branch (Coal and Iron), Proceeding no. 13-16, Part A. (1883, October). New Delhi: NAI.

¹¹ PWD, Railway Stores Branch, Proceeding no. 23-40. (1899, September). New Delhi: NAI.

¹² Finance and Commerce Department, Statistics and Commerce Branch, Proceeding no. 263-270, Part A. (1898, March). New Delhi: NAI.

¹³ Finance and Commerce Department, Statistics and Commerce Branch, Proceeding no. 485-486, Part A. (1901, October). New Delhi: NAI.

¹⁴ Revenue and Agriculture Department, C.V. Administration Branch, Proceeding no. 8-9, File no. 20, s.no. 3-4, Part B. (1904, August). New Delhi: NAI.

for this purpose and isolated from the dwelling area. Special rules would be made for regulating petrol used for cars with the convenience of private car owners in mind.¹⁵

The abundance of oil led to its many uses which made it much cheaper than other products. Everyday products which previously did not use petroleum as an ingredient, such as medicines or bottles, became cheaper with petroleum replacing older raw materials. Oil in this way, managed to penetrate several aspects of life, as people consciously looked for ways in which it could replace other materials and become an integral part of their lives.¹⁶ Chemists were engaged in inventing new uses of petroleum to make investments in it viable.¹⁷ Oil's usefulness for a multitude of activities was not a natural evolution or discovery, but the result of a calculated process by not just replacing other substances by oil but also by creating completely new products from it.

All of these developments put together, portraying the usefulness, accessibility, and affordability of petroleum, may have caused a change of heart in the British Indian government which was now abuzz with excitement about the possibilities of this new fuel. It took a few decades and many successful experiments for the British administration in India to shed its hesitation over this mysterious substance. Between unreliability and promise the government now chose to focus on the latter characteristic of black gold. While the army was already using mineral oil in small proportions and not so much as fuel such as preservation of leather hides, lubrication, illumination etc., the British Indian navy now wanted to extend complete control over India's oil production and imports, claiming that naval use of fuel to serve the empire was the topmost priority and its other uses were secondary. The navy's need was being portrayed as a national need and so if consumers of wax, kerosene etc. suffered from a diminished supply, it was justified.¹⁸ Its importance for warfare and conquest had been realised by the naval forces even before the First World War, and it was recognized as a 'strategic tool for ensuring global power'.¹⁹

Crisis of shortage during the Wars

Global use of petroleum grew by 50 per cent during the First World War (1914-1919).²⁰ Several new products with oil as a crucial component were being invented for warfare. Armies and oil corporations were now inextricably bound to one another, with governments as the third partner in the act of extracting and using petroleum for national expansion. Peculiarly, petroleum tied civilian culture to military life and battlefield activities as no other substance ever had.

Militaries and navies claimed first right over oil and all other uses were relegated to secondary status. A shortage of petroleum for civil purposes ensued. Railways, oil companies, and all other agencies concerned with the supply of oil were asked to

¹⁵ Home Department, Judicial Branch, Proceeding no. 63-67, Part A. (1903, September) New Delhi: NAI.

¹⁶Black. *Crude Reality*, p. 1.

¹⁷Ibid., p. 30.

¹⁸ Revenue and Agriculture Department, Geology and Minerals Branch, Proceeding no. 6-18, File no. 108, Part A. (1904, November). New Delhi: NAI.

¹⁹Black. *Crude Reality*, p. 59.

²⁰Ibid., p. 80.

cooperate and yet the pinch of shortage was felt across India with prices gradually rising.²¹

All major companies rationed their supplies of petroleum causing public inconvenience. Local governments wrote to the centre that all kinds of factories were on the verge of shutting down.²² This led to a black market for petroleum. Local governments anticipated riots on account of closing down of factories that would eventually lead to unemployment. Rule 11J of the Defence of India Rules was consequently imposed to prevent riots in some parts of the country.²³

Delhi Electric Tramways and Lighting Co. and Karachi Electric Supply Corporation complained to the government about the Anglo-Persian Oil Company (APOC) cutting off oil supply as it claimed that the government had requisitioned its tanker steamer for carrying oil. This meant that the two companies would have to close down their operations and these two cities would be without power. Delhi Electric Tramways and Lighting Co.'s note to the government said that 70-80 per cent of its output was generated from diesel engines. With such severe shortage in the entire country and with the cotton mills in Bombay expected to stop operations, large-scale unemployment was anticipated. Other companies also wrote to the government as their supplies fed street lights, public buildings, hospitals, and railways and other services.²⁴

This was a difficult time for curtailing oil supply for civilian needs, especially with a rising number of automobiles. Madras Presidency had approximately three to four thousand cars plying in 1918. Local governments were amending laws for storage and transport of petrol to make life easier for car owners on one hand while the central government was curtailing supply on the other.²⁵ The Bombay government complained that at a time when oil was needed to win battles, people in the city were wasting it for pleasure drives. Conversion of railways and mills from coal to petroleum would have increased the demand for oil, but this was stopped owing to the War.²⁶

The Burmah Oil Company (BOC) wrote to the Indian government that maximum supply of kerosene from Burma if secured, would not exceed 140 million gallons. The Company's experience showed that if supplies fell below this it caused administrative, political, and economic difficulties for the Indian state (it is assumed that it was BOC's own calculations based on statistics). It was essential, according to BOC, that it got maximum freight available for supplies to India. Freight congestion at Rangoon ended as a result. The Ministry of Shipping also chipped in by introducing a new distribution

²¹ Department of Agriculture, Revenue and Commerce, Stores and Plant Branch, Proceeding no. 1-30, Part A. (1917, March). New Delhi: NAI; Department of Agriculture, Revenue and Commerce, Stores and Plant Branch, Proceeding no. 9. (1917, July). New Delhi: NAI.

²² An example of such communication is the Government of Ajmer claiming that its minimum monthly requirement was 260 gallons of petrol and 12,500 gallons of kerosene. Actual requirements were far more.

²³ Department of Agriculture, Revenue and Commerce, Petroleum Branch, Proceeding no. 1-55, Part A (1918, September). New Delhi: NAI.

²⁴ Department of Agriculture, Revenue and Commerce, Petroleum Branch, Proceeding no. 1-21, Part A. (1919, April). New Delhi: NAI.

²⁵ Department of Agriculture, Revenue and Commerce, Petroleum Branch, Proceeding no. 1-2, Part A. (1918, July). New Delhi: NAI.

²⁶ Legislative Department, Unofficial Branch, Proceeding no. 187. (1918). New Delhi: NAI.

system in which sufficient tonnage was available.²⁷ Needless to say oil companies were already in a pretty powerful position as far as government decisions were concerned.

With oil proliferating into various aspects of life there was a need for less regulation and easy accessibility and affordability, and so taxes on it had to be rolled back. Over time, and especially once the War was over, the government realized that greater benefit lay in encouraging its use than in earning tax money from it. The fledgling aviation industry in the 1920s and '30s was also being encouraged, with concessions being granted to them with regard to petroleum.²⁸ Jawaharlal Nehru is said to have been the first Congressman to exploit air travel in his political campaign during 1936-7.²⁹ Oil was important therefore, not just for winning colonial battles but also democratic elections.

Buses and lorries had become common on the rural roads of the country, ferrying all kinds of goods to remote villages. By the late 1930s, British India had 1, 75,000 vehicles plying on its roads.³⁰ Storing petrol at home in a special tank under controlled conditions specified by the government was turning out to be a hassle and the need for readily available petrol in the market was felt by car users. Petrol pumps therefore began cropping up in the 1930s.³¹

Historians often refer to the Second World War (1939-1945) as the 'war for oil'.³² The Labour Department of the British Indian government in 1939 wrote to local governments that all oil exploration should stop during the War as companies were now expected to focus on increasing production of petroleum, not on prospecting.³³ Oil trade took a blow as the needs of the army, navy, and the air force had been prioritized over all others. This goes to show that despite a sharp rise in military use of oil its overall use fell drastically because of the blow that civil use took at this time.³⁴

In 1942 the Department of Supplies at the centre wrote to the Controller of Supplies in Bombay, Madras, and Karachi Residencies that the time had come to bring diesel under government control because the consumption of petroleum needed to be reduced and regulated to ensure long-term supplies for the country in a time of shortage owing to the War. The idea was to manage civil consumption so that it did not interfere with the War effort. There was also dire need for more space in shipping for War-related goods, which could be created by reducing the space given to oil for civilian consumption. This imported item took up valuable tanker space which could be used for other purposes. The British Indian government therefore issued orders under the Defence of India Rules, to regulate supplies and disposal of stocks with all companies. State governments were instructed to make laws accordingly—to restrict supply and consumption in consultation with electric supply companies, factories, and other commercial users of petroleum. The most vital cog in the distribution of petroleum was the availability of tank wagons for its carriage by train. Kerosene for illumination was in short supply and had shrunk to half

²⁷ Ibid.

²⁸ Central Board of Revenue, Customs Duties Branch, File no. 369 – Cus II – 33. (1933). New Delhi: NAI.

²⁹ David Arnold. *Science, Technology and Medicine in Colonial India*. UK: Cambridge University Press, 2000, p. 206.

³⁰ Ibid.

³¹ Legislative Department, Solicitors Branch, File no. 654-S/30. (1930). New Delhi: NAI.

³² Black. *Crude Reality*, p. 136.

³³ Political Department, War Branch, File no. 209 – W/39, s.no. 1-59. (1939). New Delhi: NAI; Rajputana Agency, Political Branch, File no. P/40 – 8. (1939-41). New Delhi: NAI.

³⁴ External Affairs Department, Frontier Branch, File no. 120-F/42, s.no. 1-67. (1942). New Delhi: NAI.

its earlier supply. It was feared diesel engines would start using kerosene as fuel, as diesel was in even shorter supply and this would threaten kerosene's supply for illumination even further.³⁵

With the enforcement of the new rule to curtail oil supply for civilian use, city governments began writing to their respective state governments about the situation under their jurisdictions. For each district, quotas were specified for different operations—irrigation, cotton gins, flour mills, electricity, etc. Frequent demands to alter these quotas were made.³⁶ Such correspondence recorded by the Punjab government reveals the importance of petroleum even in small towns at that time.

In Nahan and Ambala, Achroo Mal and Sons, local distributing agents of Burmah-Shell, had apparently not supplied even 25 per cent of the fixed monthly quota to the electricity department. The local city agencies requested the state government to ensure that tank wagons were allotted for carrying oil and its supply was resumed. The Dewan of Dujana complained that the supply of diesel had been cut to half and now electricity engines ran only till midnight. Likewise, the Khairpur agency noted that diesel was being used for electricity, cotton gins, press, flour mills, water works, and the drainage plant. The hours of supply were now restricted to only six and only the water works had not faced a reduction in supply. In Bilaspur people could not watch the cinema as its engine ran on diesel. The demand for electricity in Sirmurwas 150 units (1200 gallons) per month as against 75 units allotted to it. Various measures were taken to reduce consumption, such as stopping the powerhouse from operating during the day, switching off street lights when there was moonlight, and disallowing compound lights after midnight. In spite of this, the daily consumption of electricity required 30 gallons of oil. According to this correspondence, there were roughly 12,000 oil engine owners in the Sind Circle alone. Consequently, the volume of complaints piling up with the government was becoming difficult for it to handle.³⁷

Meanwhile, in Nabha people faced grave health consequences in the hot weather without electricity and inconveniences to the public in hospitals, jails, offices, and railway stations etc. were on the rise. Unmistakably, life without electricity was now unthinkable in these towns; so much so that their health depended on it. Chamba being a hill town was free of this dependence and diesel consumption was negligible. Rural areas were insulated from the seepage of oil into the lives of people. The Malerkotla agency, for instance, wrote that its rural areas didn't need oil as they could meet their requirement by using hand, water, animal driven mills, but powerhouses in towns required diesel. The Merchia flour mills complained to the Controller of Supplies in Karachi that there had been 60 per cent reduction in electricity supply since 1941 and in 1943 only 10 units per month were being supplied. Owing to this, out of 12 mills, only four survived till 1943. Since these mills were bound by military requirements, they were compelled to continue operating. They complained of corrupt practices and a black market for diesel among oil dealers. The dealers were apparently making private sales of oil by making bogus entries against allotments. Incidents of corruption were commonly reported in such times of rationing.³⁸

³⁵ Punjab State Agency, Residency Files, File no. C 8/4-2/46. (1946). New Delhi: NAI.

³⁶ Ibid.

³⁷ Ibid.

³⁸ Ibid.

Many of these local agencies gave the plea of military requirements for their seemingly unjust demand to not curtail their petroleum supplies. The secretary of Tehri-Garhwal for example, claimed that it supplied huge amounts of grain to the military and was very much a part of the War effort and so must be allowed 54 units of electricity per month as against the 34 units allotted. Similarly the Government of Faridkot claimed that its flour mills were providing an essential service to the community and military. Although several local agencies protested against curtailing of oil and electricity supply there were many who wrote to the Punjab government that they would be willing to introduce compulsory registration of diesel engines to assist the War effort.³⁹

By 1945 local agencies were probably tired of shrunken supplies and a fresh slew of complaints began. A political member from Jind wrote that not only were supplies far below essential requirements, but they were also uneven as their distribution was neither equal nor in proportion. Some districts were getting far more than they required and some were getting far less, he complained. His note explained that bona fide consumers were being starved while a flourishing black market was thriving for those who could afford to buy more of it even at higher rates. Consequently, the Karachi Fuel Oil Advisory Committee framed new rules for distribution of quotas—sale, uses diesel can be put to (only fuel, no lubrication, preservation, etc.), which industries were granted quotas and which not, what constituted an offence regarding purchase of oil and what did not and so on—to regulate the rationing better.⁴⁰

None of this seemed to make much sense to the public for a War taking place far away and over issues irrelevant to India. For example, the Dewan of Loharu wrote to the government that a rich resident wanted to start an ice factory. Its engine would require 15 drums of crude oil and 45 pounds of ammonia gas monthly. The daily turn out would be 10 tonnes of ice that would meet the requirements of Bikaner and Jaipur. Ice at this time was being imported from Delhi with a permit. The government was getting several such requests for various kinds of new factories and trades, but refused them all because oil supply for the War was paramount.⁴¹

The War shortages revealed that the demand for oil was uneven; for a considerable section of the populace it was nil as oil had not infiltrated into their lives, or the demand requirement was only marginal.

The relative insulation of these sections from the oil economy was, interestingly enough, flagged as a source of considerable concerns in many a conversation between government officials and oil barons from the beginning of the twentieth century. If the use of oil was to be extended into a more economic domains, then the empire's Indian subjects had to be made to move from a culture of restraint and community consumption into one of private and excessive consumption.⁴²

During the two wars however, the questions was that with oil becoming an imperative for national security and advancement, must it not be conserved? This question struck at the heart of the process that made oil what it was. Conservation and

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Revenue and Agriculture Department, Geology and Minerals Branch, Proceeding no. 1-4, File no. 136, Part A. (1902, November). New Delhi: NAI.

saving simply did not go with the ideology and practices of that process. Only a voracious consumption of oil could ensure the survival and growth of the oil industry, upon which national security now relied. And yet, from the perspective of national security, ensuring future oil supplies was fundamental and demanded conservation. It was clear that conservation was not going to let the industry grow. If the industry died out or remained small national security would be threatened too, with limited supplies of and means to sequester oil. For oil to be a useful imperial tool it needed to have a large magnitude based on conspicuous consumption and profit-oriented corporate organization. Becoming the lifeblood of militaries it was then made to also saturate the veins of civilian life. In Brian Black's words, 'The reliance of the military on petroleum set the tone for humans' twentieth-century commitment to crude'.⁴³

Following the end of the Second World War, the question of lifting the moratorium on oil prospecting in British India was raised.⁴⁴ Soon after, different departments within local governments had begun to press oil companies to supply them with petroleum for various purposes such as construction, irrigation, air-conditioners, machineries etc. And with a growing demand for oil as a necessity also came the demand for it to be cheap and readily accessible. Companies were also being asked to decrease their selling rate.⁴⁵

Petroleum at the time of Independence

As India's Independence began to loom on the horizon by the mid-1940s, the nationalists started to reflect on the issue of oil as a critical nation-making resource. In a letter from B.M. Birla⁴⁶ to Sardar Vallabhbhai Patel,⁴⁷ the former observed that petroleum consumption would rise dramatically now owing to 'rising development standards'. Birla hinted at the need for India to become 'self reliant' with regard to oil.⁴⁸ He was perhaps trying to convince the nationalist leadership of the urgency of equating national self-reliance with oil. Building a nation was about making a future with oil. Petroleum and patriotism in this way got tied together to offer independent India the fruit of development.

In an article titled 'The Energy Revolution and the Oil Industry in India' published in the *Oil Diary*,⁴⁹ K.U. Matthew wrote that for any nation the greater the per capita oil consumption, the more prosperous it tended to be. He therefore urged India to adopt the American model where the focus was on increasing consumption.⁵⁰

Investments in the oil sector were predictably rising with every Plan. The Second Five Year Plan (1956 – 61) of the Government of India (GOI) made Rs115 million provision for oil exploration and technical training programmes. This plan also advocated training of personnel in different categories required for petroleum exploration, both abroad as well as in India. The introduction of a special course in

⁴³Black. *Crude Reality*, p. 134

⁴⁴ Western Kathiawad Agency, RalarPrant, File no. A/44-50. (1946). New Delhi: NAI

⁴⁵ Gujarat State Agency, List of Joint Files to be Transferred, File no. F 888/47, S. no. 156. (1947). New Delhi: NAI

⁴⁶ B.M. Birla belonged to Birla Brothers, one of India's oldest industrial houses.

⁴⁷ Vallabhbhai Jhaverbhai Patel was one of the leaders of the Indian National Congress.

⁴⁸ Sardar Vallabhbhai Patel Papers, Microfilm, Accession no. 62. (n.d.). New Delhi: NAI.

⁴⁹ Vol. 2, no. 38, 23/09/1962. (The article was found in the archived government file: Ministry of External Affairs, WANA Section, File no. 6-C (34) WANA/60. (1960). New Delhi: NAI.)

⁵⁰ Ministry of External Affairs, WANA Section, File no. 6-C (34) WANA/60. (1960). New Delhi: NAI.

petroleum technology and drilling in the Indian School of Mines and Applied Geology was also under consideration.⁵¹ As per the Third Plan (1961–66), the expenditure incurred on oil exploration by the GOI during the Second Plan period was about Rs 260 million, as opposed to the 115 million earmarked. The Third Plan envisaged an expenditure of Rs 1150 million on further exploration as well as setting up and completing refineries and pipelines within the plan period.⁵² Considering that the GOI spent more than double of what it had earmarked for the oil industry in the Second Plan period, it appears that the government was more elastic with its funds when it came to spending on oil.

The demand for fuels and petrochemicals was now far greater than the demand for kerosene. Petrochemicals altered the human relationship with oil by presenting countless inescapable ways in which petroleum could be applied to human life and society. Petrochemicals—chemical products derived from petroleum—contributed to non-fuel fundamental human needs such as health, food, housing etc. The petrochemicals industry grew rapidly in India with the establishment of several refineries, contributing to the non-fuel uses of oil such as fertilizers, pesticides, cosmetics, medicines, plastics etc. When seemingly non-essential products such as these become outstandingly helpful in easing out daily life, they become essential over time.

Oil shock and mass politics

The 1970s saw a price rise in petroleum products like never before due to the Arab-Israel war that began in October 1973, also known as the Yom Kippur War.⁵³ The events known as the 1973–74 oil crisis brought an era of generally improving conditions of life in many parts of the world to a sudden and prolonged halt.⁵⁴ There was a 70 per cent hike in prices within a few days. With the precarious energy situation that India now found itself in, domestic production of petrol and kerosene was likely to be slashed by 25 per cent in order to raise their prices and conserve oil for the future. The Petroleum and Chemicals Ministry also stated that the domestic output of naphtha needed to increase for fertilizers by cutting the production of petrol and kerosene. Agriculture was expected to be hit strongly as—post Green Revolution—it was highly dependent on petroleum for fertilizers, pesticides and fuel for tractors, irrigation pumps and so on.⁵⁵

With the decision of the Ministry to levy extra duties on lubricants, their prices shot up, with transport being worst affected.⁵⁶ Prime Minister Indira Gandhi appealed to the citizens to tone down Diwali celebrations in view of the economic crisis India had been engulfed by.⁵⁷

⁵¹ Planning Commission. *Second Five Year Plan of India*. New Delhi: Government of India, 1956.

⁵² Planning Commission. *Third Five Year Plan of India*. New Delhi: Government of India, 1961.

⁵³ Sarah Horton, 'The 1973 Oil Crisis'. On www.envirothonpa.org. Accessed on 15/05/2014, www.envirothonpa.org/documents/The1973OilCrisis.pdf.

⁵⁴ Mitchell. *Carbon Democracy*, p. 173.

⁵⁵ 'Petrol Production to be Slashed'. *The Times of India*, 19 October 1973.

⁵⁶ 'Price of Lubricants Goes Up'. *The Times of India*, 20 October 1973.

⁵⁷ 'PM for Simple Diwali'. *The Times of India*, 20 October 1973.

The Ministry announced a rise in the price of petrol and kerosene.⁵⁸ Following this, the Taximen's Union in Bombay demanded a rise in fares. The media reported that transport costs would now soar, raising the prices of all goods transported by trucks, leading to a general inflation.⁵⁹ The taxi men complained that there was a drop in their business after fares were raised.⁶⁰

The ongoing anti price-rise movement by women added kerosene to the list of items they were protesting about, and were out on the streets in large numbers. Socialist parties too condemned the move to raise petrol prices as being a 'cruel joke' and 'anti people'.⁶¹

Domestic budgets were hit as dry-cleaning, groceries, cooking gas etc. were all affected by the price rise. Bus and auto-rickshaw fares too rose. News reports claimed that people had to switch to coal and wood from cooking gas and kerosene, and buses and bicycles from taxis and cars. There were fears in some cities that all transport would be paralysed. Petrol pumps faced massive jams, either hoarding the fuel or actually running out of it.⁶²

Old motorists were now recalling the days of the Second World War during which there was severe petrol rationing, resulting in a black market, switch to gas and coal, and adulteration of petrol.⁶³ Furnace oil was now in such high demand that it was being stolen by organized gangs.⁶⁴ In order to curb adulteration of diesel and petrol with kerosene, the GOI pronounced that all kerosene must now be dyed blue.⁶⁵ The origin of blue kerosene in India can therefore be traced to the Yom Kippur War.

A nationwide strike of petrol dealers was expected to paralyse transport across the country. Madras, Calcutta, Delhi, and Bombay were already facing strikes and protests.⁶⁶ With this backdrop of shortage, protests and inflation, governments had to cut down their own consumption of petroleum products.⁶⁷ The PM made a show of austerity by taking a horse carriage to her office one day instead of a car, following which she switched from a limousine to an Ambassador, as the latter consumed less fuel.⁶⁸ In the same vein, the West Bengal cabinet decided to stop using limousines for ministers.⁶⁹ In some states it was feared that the government's entire fleet of cars may come to a grinding halt. In some other states, ministers were now riding bicycles.⁷⁰ Soon after, there was a wholesale shift among all ministers from limousines to Ambassadors. The 1973 oil shock officially marked the end of limousines in India and enshrined the Ambassador as a seal of the government and symbol of austerity.

⁵⁸ 'Petrol Price Raised by Rs. 1.07 a Litre'. *The Times of India*, 3 November 1973.

⁵⁹ 'Cabbies to Hike Fares'. *The Times of India*, 3 November 1973.

⁶⁰ 'Taxi Fares go up in Bombay'. *The Times of India*, 4 November 1973.

⁶¹ *Ibid.*

⁶² 'Cabs and Rickshaws go off the Road'. *The Times of India*, 4 November 1973.

⁶³ 'Steps Soon to Cut Use of Petrol'. *The Times of India*, 30 October 1973.

⁶⁴ 'Two Gangs of Furnace Oil Thieves Busted'. *The Times of India*, 13 March 1974.

⁶⁵ 'Kerosene may be Dyed Blue'. *The Times of India*, 4 January 1974.

⁶⁶ 'City Unprepared for Dealers' Strike'. *The Times of India*, 14 November 1973.

⁶⁷ 'Drastic Oil Curbs'. *The Times of India*, 4 November 1973.

⁶⁸ 'Indira Sets the Pace'. *The Times of India*, 6 November 1973.

⁶⁹ 'No Use of Limousines'. *The Times of India*, 8 November 1973.

⁷⁰ 'Government Cars face "No Petrol" Prospects'. *The Times of India*, 21 November 1973.

The oil price hike was expected to hit Indian shipping hard. According to reports, a ship weighing 15,000 tonnes required 40 tonnes of oil per day. India has a fleet of about 400 vessels with a tonnage of about three million. The price rise therefore would affect sea transport badly.⁷¹ Likewise, air travel too was hit. Airlines were set to increase their fares as their fuel bill rose by Rs 170 million.⁷² Due to lack of fuel the Flying Club was forced to shut operations, leaving many students in the lurch.⁷³

After a successful all India strike in November 1973 against the economic situation in the country and the government's alleged inaction, the left parties and the Jana Sangh were now preparing to move an adjournment motion in parliament.⁷⁴ Likewise the entire opposition in the Maharashtra Assembly walked out in protest against the state government's failure to supply kerosene for civilian use. Several state assemblies and the parliament witnessed high drama many a times.⁷⁵ Oil was now a big enough issue to shake the government and didn't just mean security but also stability.

With petrol prices consistently on the rise, some members of parliament urged for the implementation of 'carless Sundays' like in many western countries.⁷⁶ Several new ideas were being born in the wake of this crisis. Engineers were devising new ways of running cars, new fuels such as ethanol and ammonia were being experimented with. The future of cars, it was said, was 'alcoholic'. With alcohol being successfully experimented with, it was believed that people would be able to drive even if oil wells went dry. It was also cheaper and less polluting. It was experimented with briefly during the Second World War but lost steam when oil supplies resumed. This time, creating fuel or ethanol from waste was seen as a great idea.⁷⁷ Cooking gas, which was also substantially cheaper was also successfully experimented with for running cars.⁷⁸ The GOI however, did not take up either of these ideas and India continued running on limited supplies of petrol. Clearly, keeping the oil industry alive and ensuring its demand was a priority for the government, even in times of shortage.

Oil cuts had also hit the pharmaceutical business and healthcare. Petrochemicals were a basic ingredient of modern medicine.⁷⁹ The GOI planned to curb the domestic use of cloth, sugar and cement to save them for export in order to increase India's foreign exchange reserves which were being drained by petroleum imports.⁸⁰ Thus, even products not directly touched by the oil shock, were indirectly affected. Oil had in this way brought most material things within its ambit. Fishing was another industry affected by shortage of fuel for fishing boats, thereby affecting the food people ate.⁸¹ Similarly, even cattle feed was now a derivative of petroleum. The Baroda refinery was extracting protein from crude oil which was ingestible and was being used as cattle feed.⁸² Petroleum had by now crept into the everyday lives of people and saturated the

⁷¹ 'Oil Price Hike will hit Indian Shipping'. *The Times of India*, 6 November 1973.

⁷² 'IA, AI Fuel Bill up by Rs. 17 cr.'. *The Times of India*, 6 November 1973.

⁷³ 'Flying Club faces Closure'. *The Times of India*, 11 November 1973.

⁷⁴ 'Move in Lok Sabha Likely'. *The Times of India*, 12 November 1973.

⁷⁵ 'Walkout on Kerosene Fiasco in City'. *The Times of India*, 15 February 1974.

⁷⁶ 'Carless Sunday Urged'. *The Times of India*, 28 November 1973.

⁷⁷ 'IIT Tests show Alcohol Blend can Replace Gasoline'. *The Times of India*, 26 November 1973.

⁷⁸ 'Cheapest Way to Run Car'. *The Times of India*, 6 January 1974.

⁷⁹ 'Oil Cut Will Hit Drug Industry'. *The Times of India*, 14 February 1974.

⁸⁰ 'Curb on Use of Cloth, Sugar, Cement Likely'. *The Times of India*, 16 February 1974.

⁸¹ 'Kerosene Quota for Fishing Boats'. *The Times of India*, 1 September 1974.

⁸² 'Protein from Crude at Baroda Unit'. *The Times of India*, 11 June 1974.

nation such that it was almost paralysed without it. The new uses that were being created for it often had no substitutes.

The Maharashtra government ordered cuts in peak hour supply of electricity and the Gujarat government ordered load-shedding measures in agriculture. In Bombay, no air conditioners were allowed in offices, commercial establishments, hotels, and cinemas during certain hours. Though the textile industry was being promoted as cotton textiles were in greater demand, owing to the fall in demand for synthetics, with power cuts, the textile industry was hit hard.⁸³

Concluding remarks

In 1975 the Planning Commission prepared a paper on energy planning in India, according to which between 1953 and 1974, India's oil consumption rose from 3.5 metric tonnes to 26.3 metric tonnes. In the same period, its contribution to overall energy consumption in the country rose from 11.9 per cent to 31.2 per cent. Consumption of non-commercial sources of energy such as biomass, dung and wood steadily came down as the reach of grid-based commercial energy widened and more populations were shifted from energy independence and renewable energy use to dependence on state-provided non-renewable energy. This was essential for industrialization and so consistent efforts were made to achieve this 'favourable trend'. Non-commercial sources were seen as 'wasteful' and perhaps primitive.⁸⁴

Irrespective of the brief interlude caused by the oil shock of 1973, consumption of petroleum products has continued to rise. What that interlude reveals though is the government's total power over controlling how oil would be used, what activities would be affected, and what would continue. The state exercised massive control over people's mobility, food and clothing, consumption, working hours, and almost all aspects of life since most of them were touched by oil in some way or the other, which was monitored by the state. The fact that people were left in the lurch for several activities but could do nothing about it, is telling of their dependence on an external authority for the provision of the infrastructure, raw materials, and services they needed to execute their basic daily activities. Oil, thus, became the key with which the state and high politics organized the everyday, and vice versa.

Petroleum in this way made a smooth transition from being an instrument of the colonial state to becoming a constituent of the modern state's very existence. Colonial concerns about oil such as railways and defence, had shifted to the politics of the everyday, organized around the idea of citizenship based on rights, duties, and obligations. The web of associations that has developed between human society and petroleum over more than 100 years had made it difficult for society to disengage itself from the complex of oil. This made the demand for oil quite inelastic as it had no substitutes anymore, as it did in the form of vegetable oils, when it was used merely for illumination. Coal too failed to fill the gap. As much as the modern oil industry and government attempted to make petroleum technical, scientific and immune to risk, the GOI had made a classic wildcatter's move by placing its entire stakes on oil; so much so that it faced near paralysis without it.

⁸³ '20% Cut in Peak Hour Use of Power Ordered'. *The Times of India*, 16 April 1974.

⁸⁴ Ministry of External Affairs, UI Section, File no. UI/151/151/70. (1970). New Delhi: NAI.

With petroleum thus involved in multiple domains such as nation building, development, self-reliance, and national security any shortage, it was now widely understood, could have tremendous political implications. By becoming an active fault line that ran between the citizens and their government, petroleum provisioning was now a vital task of governance and an inflammable political ingredient for raucous mass politics in Independent India. What this reveals is that oil was not just an instrument of state—making and consolidating its power, but could be used inversely by the citizens, as a substance of mass-politics. The government was accountable to the people for the provision of oil, and on failing to do so, could be toppled over.

With this story I have aimed to challenge the idea that big technology only furthered colonial interests, by bringing out the contradictions and ambivalence imbued in it. Sometimes owing to conflicts within the imperial government about the merits and uses of the technology, sometimes owing to its subversive use at the receiving end that created vulnerabilities for the empire, and sometimes because of confusion, accidents, and other problems that accompanied new technology, *it was not driven by the logic of empire alone*. Instead, its path was engraved by many tensions, uncertainties, and constraints.

Like other big technologies, oil too had an enormous apparatus of operation. Despite this, it did not remain a tool in the hands of the empire for conquest. The history of oil in India reveals that it assumed that role for the colonial state later and began its career as an everyday item by being an ingredient for many daily goods and a resource for energy, heat, and light. This unsettles the dichotomy based on scale presented by earlier writings, as big technology enables the use of small technology at the quotidian level for extra-empire activities. Cars, mills, other machines, paints, medicines and such like became a part of Indian life and culture only because of the availability of cheap oil which was possible because it was being produced and traded on a large scale with the active involvement of the state. And only because it was used commonly and not just by the state was it able to serve it as tool for conquest: if oil was not a popular consumer product it would not be big, and so it could not be used as a fuel by the army and navy.

The story of oil captures a double movement in which big and complex technology make possible the everyday technical, political and social world and simultaneously, the everyday use of that technology enable it to become big and useful for the state. Big and small technologies thus did not inhabit separate worlds but were dialectically linked through oil. The history of petroleum therefore, is not a mere sequence of events involving technological innovation in pipelines, refineries, and wells but a set of political calculations and social pressures that ascribed certain meanings to this substance. Oil, unsurprisingly, is a messy story.