Courting Social Change – Lessons from the CNG Case in India

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This Article aims to discuss the challenges to judicial intervention in policy-making and the constraints on the courts’ efficacy in bringing about social change. For this purpose, this Article focuses on the CNG case, where the Indian Supreme Court decided the fuel choice for Delhi, to enforce the right to a clean environment. This analysis is important in identifying means for Civil Society Organisations to make better use of the judicial system in effecting social change.

I. INTRODUCTION

While scholars like Trubek are optimistic about the new law and development movement,¹ others such as David Kennedy continue to be sceptical.² Kennedy argues that the rule of law approach has the impact of reducing engagement with politics and economics.³ This Article discusses these limitations of the law and development movement in as much as it encourages access to justice for development. To this end, the Article identifies the challenges to judicial intervention in policy-making and the constraints on the courts’ efficacy in bringing about social change. The Article focuses on the CNG (Compressed

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³ ibid.
Natural Gas) case, where Civil Society Organisations (CSOs) approached the Indian Supreme Court to enforce the right to a clean environment by determining the fuel choice for Delhi to be CNG.

Critics of judicial review and the judicialisation of social rights point to the institutional design of the Court as well as its political embeddedness to identify factors that constrain the Court in transforming society. This Article will contribute to the existing literature by identifying these factors and Indian CSOs’ neglect of them in India’s social movements.

The analysis is particularly pertinent to the Indian context, where the civil society has often sought judicial intervention to determine the adoption of specific technologies. Recent instances include judicial decisions on the regulation of genetically modified organisms in Aruna Rodrigues v Union of India and Others; and use of nuclear technology in G Sundarrajan v Union of India and Others. The CNG case is particularly relevant to the discussion as it involves both institutional limitations of the judicial process, and what Rosenberg points to as an oft-repeated failure of the environmental movements to adopt political methods to bring social change. The peculiar facts of the case – the lack of interest of the political class; the non-alignment of the market; limited support of the executive – highlight the limitations of the law and the strategy of development movements, which take refuge from economic analysis and political choices in law.

To analyse the role of the Court and its impact on social movements, the Article adopts a constitutional ethnographic approach developed by Scheppele which relies upon the logics of particular contexts as a way of illuminating complex interrelationships among political, legal, historical, social, economic, and cultural elements. In this way, the institutional limitations of the Court are contextualised to identify its political embeddedness, which CSOs did not seek to influence in the CNG case.

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4 MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India).
6 Aruna Rodrigues v Union of India and Others (2012) AIR SCW 3340 (Supreme Court of India).
7 G Sundarrajan v Union of India and Others (2013) 6 SCC 620 (Supreme Court of India).
9 Kennedy (n 2) 170.
The research is guided by the ideas of law and development scholars, such as David Kennedy, Trubek, Santos, and Galanter who advance nuanced criticisms and varying degrees of faith in the movement. In order to contextualise the analysis, reliance is placed upon news reports and surveys to examine consumer preferences, awareness about pollution, media attention on pollution issues and the price of fuel. Reliance is also placed on existing literature pertaining to the changing role of the Supreme Court of India developed by Baxi, Rajamani and Sivaramakrishnan.

The Article is divided into six Sections. The second Section to this Article discusses the theoretical framework and the facts of the CNG case. The Section is supported by a timeline depicting the sequence of events. The next Section discusses reasons for Indian social movements’ preference for judicial intervention, with specific reference to the Clean Air campaign and the CNG case.

The fourth Section discusses the efficacy of judicial intervention in policy decisions by focusing on the intrinsic limitations in the Court’s abilities. Relying on criticisms developed by experts such as Galanter, Baxi, and Horowitz, the limitations faced by the Court in the CNG case, and the mechanisms it adopted to overcome these, are identified.

The fifth Section focuses on the political embeddedness of the Court, which limits it from taking bold steps to effect social change. In this Section, the failure of CSOs to adopt political means to increase the impact of social movements is highlighted within the context of the CNG case. The sixth Section concludes the Article by highlighting the lessons that the CNG case presents for social movements.

II. THEORETICAL FRAMEWORK AND FACTUAL ASPECTS OF THE CNG CASE

2.1 Theoretical Basis

Judicialisation, closely linked to the access to justice movement, is a product of the law and development movement. The core conception of the law and development movement of the 1950s and 1960s, also known as “liberal legalism”, is that legal change has the potential to bring about social change.11

The movement perceived lawyers and judges to be social engineers. On the basis of Weber’s work, this approach presumed causation between legal reform and development, whereas, as noted by Trubek, legal reform provided an environment that encouraged development, but did not result in it independently.

The movement’s initial failures have left it with a history of introspection and self-reconstruction. However, it continues to be guided by the conviction that the law and lawyers can bring about social change. Consequently, the 1980s resurgence of the movement encompassed projects that targeted legal and judicial institutions. According to scholars such as Garth, these projects failed since they were elitist, attempting to reform legal culture in developing states to reflect the culture in the west, to benefit the elite.

The relation between law and poverty has recently been reiterated by the Alffram’s report for the Commission on Legal Empowerment of the Poor, which argues that legal exclusion denies billions of the world’s poorest access to development. This understanding forms the basis of the access to justice movement. Accordingly, funds have been pumped into developing countries to achieve legal reform. For instance, the World Bank has initiated the Justice for

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14 Trubek, ‘Toward a Social Theory of Law’ (n 11) 15.


16 Trubek, ‘The “Rule of Law” in Development Assistance’ (n 1) 86.


19 Alffram (n 18) 10.
the Poor Program. Though these projects differed from the previous law and development movement, in as much as they combined the formal approach to Rule of Law with the substantive approach. Though Trubek is optimistic about the new law and development movement, the theoretical limitations that plagued the movement in its earlier form remain relevant.

As mentioned before, the CNG case is perhaps ideal for illustrating the intrinsic and extrinsic limitations of the Court in bringing about social change, which the CSOs did not seek to address. Firstly, in relation to institutional limitations of the Court, the technical nature of the case allowed expertisation of the decision making process, and the polycentric nature of the dispute made judicial forums inadequate for negotiating a solution. Secondly, the political embeddedness of the Court was illustrated in its limited response to the problem of vehicular air pollution, which resulted from the failure of the movement to develop incentives and influence the market. Consequently, the Court brought about a policy change, but did not succeed in bringing about a change in social and governmental attitudes towards the environment and environmental rights.

In order to understand these issues, it is important to understand the nature of the problem of air pollution and vehicular fuel choice, and review the sequence of events that led to the Court’s decision. This Section first highlights the gravity of the problem of air pollution in Delhi and its causes. It then discusses governmental initiatives to address the problem. This Section is also supported by a timeline, provided in Appendix A, depicting the sequence of events that led to the Court prescribing the adoption of CNG by buses, taxis and auto-rickshaws.

### 2.2 Depleting Air Quality and Causes of Vehicular Air Pollution

Vehicular air pollution in Delhi has been a cause for concern since the 1970s. The contribution of vehicular pollution has been on the rise; from 23% in 1971, it increased to 43% in 1981 and 63% in 1991, respectively. The rise in air pollution was noted by international organisations such as the WHO, which

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21 Kennedy (n 2) 150.

22 Trubek, ‘The “Rule of Law” in Development Assistance’ (n 1) 93-94.


24 ibid.
noted that emissions of carbon monoxide (CO) in Delhi increased from 140 to 265 tonnes in the period 1980-1990.\textsuperscript{25} Moreover, vehicular pollution is also the most important source for some pollutants of great concern, such as nitrogen oxides, benzene and carbon monoxide.\textsuperscript{26}

**Vehicle population:** Urbanisation in Delhi was followed by a staggering increase in vehicular population, from 235,000 in 1975 to 2,629,000 in 1996.\textsuperscript{27} While Delhi’s population increased by 57\%, vehicle registration increased by 142\% between 1971 and 1981.\textsuperscript{28} The contribution of vehicular pollution to air pollution also increased to 65\% in 1997.\textsuperscript{29} Moreover, it was estimated that over 70,000 vehicles entered Delhi every day during this period.\textsuperscript{30}

**Fuel choice:** Apart from vehicular population, fuel choice in India was a growing concern. In 1985, when the case was filed, Delhi and the rest of India were reliant on diesel and leaded petrol as vehicular fuels. Later, in 1995 leaded petrol was replaced by unleaded petrol in Delhi and three other metropolitan cities.\textsuperscript{31} However, diesel continues to be used for heavy vehicles in Delhi today.

Diesel is a particularly harmful fuel. While exhaust from diesel engines contains lower concentrations of some gaseous pollutants, it has higher concentrations of Respirable Particulate Matter (PM) which are very fine particles that settle deep into the lungs and cause respiratory diseases.\textsuperscript{32} It also releases large quantities of polycyclic aromatic hydrocarbons,\textsuperscript{33} which can cause cancer.\textsuperscript{34} While use of diesel has been disincentivised in various states in the United States of America

\textsuperscript{25} World Health Organization ‘Guidelines for Air Quality’ (2000) WHO/SDE/OEH/00.02  
\textsuperscript{26} World Health Organization, *Health effects of transport-related air pollution* (Michal Krzyzanowski, Birgit Kuna-Dibbert and Jürgen Schneider (eds), World Health Organization 2005).  
\textsuperscript{29} Government of India Ministry of Environment, Forests and Climate Change (n 27).  
\textsuperscript{30} WHO and UNEP (n 28).  
\textsuperscript{31} Rita Pandey, ‘Fiscal Options for Vehicular Pollution Control in Delhi’ (1998) 33(45) Economic and Political Weekly 2873, 2878.  
\textsuperscript{33} ibid.  
\textsuperscript{34} ibid 29.
through the implementation of higher taxes, diesel of the most polluted kind was still in use in India.\textsuperscript{36}

Prior to 2002, public transport in Delhi was primarily reliant on diesel. These buses, though few in comparison to the fleets of cars, generated the largest amount of pollution per vehicle kilometre, and the largest amount of nitrogen and sulphur oxides.\textsuperscript{37} However, it should be noted that the largest contribution to vehicular air pollution was by passenger cars fuelled by petrol, since these are the largest in number.\textsuperscript{38}

\textbf{Engine type:} Apart from vehicular population and fuel options, the engine type also has a bearing on the amount of pollution generated. Scooters and motorcycles were the most common form of motorised vehicles in 1981.\textsuperscript{39} This is problematic, as these vehicles run on two- and three-stroke engines, which result in larger quantities of pollution. Despite their environmental harmfulness, the contribution of these vehicles to the vehicular population in Delhi continued to rise through the 1990s – in 1997, two thirds of the vehicles in Delhi were two-wheelers operated on two-stroke engines, accounting for 70% of hydrocarbon and 50% of carbon monoxide emissions.\textsuperscript{40}

\textbf{Traffic congestion:} Furthermore, pollution is also dependent on road density and traffic congestion.\textsuperscript{41} This is aggravated by heterogeneity of traffic in the city. Use of roads by mixed vehicles, motor and non-motor vehicles decreases the speed of the cars and efficiency, thus increasing air pollution.\textsuperscript{42}

\begin{itemize}
\item \textsuperscript{37} Central Road Research Institute, ‘Effect of Environmental Pollution due to Road Traffic on Health of Delhi Traffic Policemen’ (New Delhi, Environment and Road Traffic Safety Division: Central Road Research Institute 1991); Pandey (n 31) 2878.
\item \textsuperscript{38} Pandey (n 31) 2878.
\item \textsuperscript{39} WHO and UNEP (n 28) 101.
\item \textsuperscript{40} Government of India Ministry of Environment, Forests and Climate Change (n 27).
\item \textsuperscript{41} Pandey (n 31) 2873.
\end{itemize}
Public transport vs. private transport: it is also significant to note that the number of personal vehicles has grown in the city.\(^ {43}\) According to Pandey, between 1971 and 1991, the vehicle density per kilometre in Delhi increased from 24.78 to 84.08, however, the population of buses reduced.\(^ {44}\) The trend of lower percentage of public vehicles has continued. In 2012, of the 500,000 vehicles added to the city, 400,000 were private vehicles, and only 2,562 vehicles were buses.\(^ {45} \) Since these vehicles do not cater to public transport needs, they contribute to the increase in per passenger pollution.

Age of vehicle: Moreover, the age of the vehicle also affects its emissions. As noted by Kokaz and Rogers, the turnover period for cars in Delhi is about 20 years, as opposed to 6 to 8 years in developed countries.\(^ {46}\) Older cars evidence higher emission rates, a situation aggravated by poor maintenance of these cars, resulting in increasing emissions.\(^ {47}\)

Through this discussion it is amply clear that vehicular air pollution is complex and dependent on a number of technical factors.\(^ {48}\) Thus, any attempt to reduce air pollution would undoubtedly have to adopt a multi-pronged approach and alignment of a number of interests. With this understanding, the next Section reviews government initiatives to address air pollution.

2.3 Government’s Initiative in Addressing Air Pollution

Arguably, deterioration of air quality in Delhi was on account of the government’s failure in ensuring the planned development of Delhi.\(^ {49}\) Since India’s independence from British rule, development in Delhi was marked by inadequate planning and control,\(^ {50}\) and resulted in the creation of new squatter

\(^{43}\) Pandey (n 31) 2874.
\(^{44}\) ibid.
\(^{47}\) ibid.
\(^{49}\) Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 1.
areas that were deficient in civic amenities. Moreover, in the 1970s, urbanisation received another push with the start of the industrial revolution in India. Thus, industrialisation, urbanisation, population explosion and poverty led to a rise in air pollution.

However, the deterioration of air quality had not gone entirely unnoticed by the government. Responding to the rise in vehicular pollution and its subsequent health risks, the government of India initiated legislative reform to curb pollution. It enacted the Air Act in 1981 to establish a mechanism to monitor and improve the quality of air. Under the Air Act, the bureaucratic structure created under a previously enacted statute, the Water Act of 1974, was allocated the responsibility of ensuring compliance with the air pollution control norms under Section 2(g) of the Air Act. The government also incentivised the use of ‘non-polluting fuels’ by making related amendments to the Motor Vehicles Act 1994.

However, despite the introduction and amendment of legislations on pollution control, the deterioration continued. By 1991, the contribution of vehicular pollution to air pollution in Delhi rose to 63%. The level of particulate matter in Delhi’s ambient air rose to 3.85 times the national standard during the late 1980s. Notably, the government did take note of pollution by two- and three-wheeled vehicles and instituted a committee to recommend emission standards. However, these were not prescribed till 1991.

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51 Thakur Das Bhargava, ‘Lok Sabha Debate Delhi Control of Building Operations Act, Lok Sabha Debates 1836-50, 1836’ (Lok Sabha Secretariat, New Delhi, 7–9 December 1955).
56 Saxena, Bhardwaj and Ghosh (n 23) 110.
57 Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 3.
The low efficacy of the law could in fact be attributed to at least four reasons:

Firstly, the measures adopted by the government to combat air pollution were not stringent enough. For instance, with regard to the two- and three-wheelers, the emission norms were set at a level that 60% of the vehicles could meet, by merely tuning up their engines.\(^{59}\)

Secondly, even the limited reforms adopted were not strictly enforced. According to statistics maintained by the government of India, of the 115,000 vehicles checked every year from 1991 to 1994, more than 80% of vehicles were found to meet the emission standards.\(^{60}\) However, data collected by the Automobile Association of Upper India (AAUI) reveals that in May 1995, more than 50% of vehicles in Delhi failed to comply with the prescribed standards.\(^{61}\)

Poor enforcement of the law resulted from inadequate infrastructure. The state transport authority for Delhi lacked adequate service stations with equipment to measure vehicular exhaust.\(^{62}\) This reveals that compliance with regulatory norms was in fact not achieved and vehicular maintenance continued to be an issue.\(^{63}\) Thus, while effort was expended on the limited legislative action taken, it fell short of ensuring successful enforcement of the norms.

Thirdly, the norms targeted per unit pollution, failing to address larger issues of fuel inefficiency and public transportation trends.\(^{64}\) For instance, the government launched pollution control drives, but these were limited to checking the tailpipes of vehicles to see if they met emissions limits.\(^{65}\) This transferred the onus of compliance entirely upon the owner of the vehicle, who had little or no control over the quality of the fuel or the engine efficiency. The norms only addressed maintenance-related emissions.\(^{66}\) Thus, the norms fell short of identifying and addressing the larger causes of vehicular pollution.

In addition, lack of access to information on air pollution also affected the capacity of citizens to contribute towards development of effective pollution

\(^{59}\) ibid.

\(^{60}\) Pandey (n 31) 2878.

\(^{61}\) ibid.

\(^{62}\) Narain and Bell (n 55) 5.

\(^{63}\) Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 3.

\(^{64}\) ibid.

\(^{65}\) ibid.

\(^{66}\) ibid.
control policies. Similarly, citizens were not in a position to demand compliance with existing norms. A statement by CSE in this regard is illuminating:

It was not possible to assess the gravity of the public health risk as our monitoring institutions were incapable of generating reliable data on air pollution and health effects. We were stuck with insufficient data, contradictory information, and considerable confusion.67

It was in these circumstances that renowned environmentalist MC Mehta approached the Supreme Court in 1985, urging it to intervene to improve air quality in Delhi. As indicated in the timeline, in the following 17 years, over the course of several hearings, the Court established expert committees and sought a deliberative process for developing a solution to air pollution. The Centre for Science and Environment, a civil society organisation, launched the Clean Air Campaign and participated in the proceedings through its Director, who was a member of the expert committees. Its reports caught the Court’s attention. Finally, in its landmark judgement of 1998, the Supreme Court ordered the conversion of all diesel buses in Delhi to CNG. The Court’s judgment of 1998 was implemented in December 2002.68 Studies noted that the quality of air in Delhi improved between 2002 and 2007.69

Despite the conversion of buses from diesel to CNG, which produces less gaseous and particulate emissions, the level of pollution in Delhi rose after a few years. In January 2014, the New York Times reported that Delhi’s air quality was worse than Beijing’s.70 In particular, it noted that the level of PM10 was nearly two-and-a-half times higher in Delhi than in Beijing in 2011.71 In a fact sheet released by CSE, it is pointed out that the PM2.5 measure is eight times higher than the standard level.72

67 ibid.
71 ibid.
Notably, the Supreme Court, in its order dated 5 May 2002, had observed that the government was responsible for ensuring that the vehicular fuel adopted was benign. In failing to do so, it held the government to be in violation of an essential norm of sustainable development – the precautionary principle. The Court, in paragraph 43 of the same decision, had further directed that the Union of India give priority to the transport sector for supply of CNG all over the country. While it set a deadline for adoption of CNG by buses, auto rickshaws and taxis, it did not set a deadline for its adoption by personal vehicles.

The disturbing pollution levels in Delhi are evidence that the CNG case is an example of winning the battle and losing the war. It also challenges CSOs’ strategy of seeking judicial intervention in policy-making. Despite such failures, why do civil society organisations seek judicial intervention? Moreover, what limits the courts from bringing about social transformation and granting piecemeal rewards instead? Are there factors that CSOs can try to address to make judicial intervention more meaningful? The following Sections attempt to answer these questions.

III. ARGUMENTS IN SUPPORT OF JUDICIAL INTERVENTION

Social movements in India have resorted to litigation to achieve legal and social change. Since the emergency period between 1975 and 1977, the Indian Supreme Court has engaged notably in law-making and law enforcement through social action litigation. This Section discusses reasons for CSOs to seek judicial intervention, by analysing the CNG case.

3.1 Judicial Intervention as a Means to Participation

Some constitutional experts, such as Waldron, do not favour constitutionalism, and therefore judicial review, as it is predicated on constraining the existing majority’s wishes. However, majoritarianism is only one of the many mechanisms by which decisions are made in a democracy. In fact, Dworkin notes that the cornerstone of democracy is political equality. Political equality

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73 MC Mehta v Union of India (n 4) [9].
does not merely entail equality in the right to vote, but equality in political power and the ability to influence governments’ decisions.78 Courts act as platforms of participation in providing a forum to address the infringement of rights by the state79 and reduce the gap between nominal and actual political power, as both the state and the individual appear as equals before the courts.80

In relation to the CNG case, it may be noted that slum dwellers were the most affected by vehicular pollution.81 However, as argued by Wit and Berner, slum dwellers have greater difficulty in mobilising and organising people collectively, and therefore effecting change.82 They thus face political inequality in influencing government action. To overcome the lack of resources to access law making processes, public interest litigation allows opportunities to the civil society to engage in policy-making.83 Thus, the use of the courts by environmentalists such as MC Mehta and Anil Agarwal was a means of grievance redress and participation in policy-making.

Moreover, as noted by Heller, the Indian state has not encouraged democratic participation and instead has relied upon administrative coercion.84 A review of the witness attendance before the Committee of Subordinate Legislation – a parliamentary committee that reviews executive action as a part of the parliamentary process – reveals the low level of public participation in policy-making. Between 2004 and 2011, while reviewing executive action, the two Houses of Parliament had together taken oral evidence from a total of 33 witnesses, even though they had reviewed 151 subordinate legislations.85 In these circumstances, courts act as important forums for citizen intervention.

78 Macedo (n 76) 1030.
80 Ronald Dworkin, Taking Rights Seriously (Duckworth 1977) 216-17.
85 Harsimran Kalra, ‘Public Engagement with the Legislative Process’ (Background Note for the Conference on Effective Legislatures, New Delhi, PRS 2011) 2.
3.2 Lack of Responsiveness of Other Organs

As noted by Horowitz, citizens’ preference for the judiciary stems from the unresponsiveness of the other branches of government.\(^{56}\) In the context of the United States of America, Denvir argues that most public interest litigation is aimed at the more prosaic goal of attempting to force large, politically unresponsive bureaucracies to follow the clear mandate of the law.\(^{87}\) This is true even in India, where the government’s lack of responsiveness in relation to economically deprived population groups has given the Supreme Court an opportunity to expand its mandate.\(^{88}\)

In the CNG case, CSOs resorted to litigation in the wake of the bureaucratic logjam in implementation of the environmental laws. Despite the falling standards of ambient air quality, the executive did not take adequate action to address the problem of air pollution. According to CSE, the inaction is attributable to the government’s callousness.\(^{89}\) Other experts have argued that the government was in fact the lead policymaker and the Court’s role was to ensure that the government acted on its policies.\(^{90}\)

While the government had enacted laws on air pollution in 1981, as argued by Mehta and noted by the Court, it had not taken measures to enforce the rights of citizens. The first set of emission norms were introduced in 1989.\(^{91}\) Similarly, even though the government was empowered to establish expert committees for developing norms of monitoring air quality and recommending pollution control policies, the first such committees were established upon directions from the Court.\(^{92}\) It should be noted that the government did appoint the HB Mathur Committee in May 1991, soon after the appointment of the Saikia Committee in April 1991. However, these measures seem to have been precipitated by the petition.\(^{93}\)

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\(^{89}\) Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 11.

\(^{90}\) Narain and Bell (n 55) 2.

\(^{91}\) Central Pollution Control Board, ‘Status of the Vehicular Pollution Control Programme in India’ (Central Pollution Control Board Programme Objective Series, Probes/136/20/10, 2010) <www.cpcb.nic.in/upload/NewItems/NewItem_157_VPC_REPORT.pdf> accessed 9 September 2014.

\(^{92}\) Narain and Bell (n 55) 5.

\(^{93}\) ibid 4.
3.3 Deliberative Process

Through the first phase of the law and development movement, its proponents had realised that the governments of developing countries did not support participation and deliberative processes. Individual rights were therefore sought to be recognised and enforced through the courts, which are seen as guided by the principles of deliberative democracy. In the CNG case, the Court in its order dated 14 March 1991, realising the importance of deliberative processes, established expert committees to develop a discussion-based solution.

Moreover, as noted by Horowitz, courts are guided by principles different from those that influence the legislators and the executive. For instance, in the CNG case, judges, who were independent of the industry, could disassociate from market trends and direct the conversion of diesel buses to CNG despite the existent non-availability of the technology or the fuel.

Similarly, while judges do not have the educational qualifications to make policy decisions, their generalist knowledge allows them to take into account a variety of issues that technical expertise obscures. For instance, the Mashelkar Committee recommended the prescription of emission norms to fuel choice. This recommendation was supported by experts at scientific organisations such as The Energy and Resources Institute (TERI). However, as noted by the Supreme Court in its order on 5 April 2002, these recommendations did not take into account the consistent failure of the executive to enforce emission norms. The courts, with their generalist approach, were in a position to make decisions on the basis of administrative efficacy.

To summarise, since courts provide a forum to participate in governance and rights enforcement, it is not surprising that social movements seek support in

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94 Trubek and Galanter (n 15) 1093.
96 MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 14 March 1991 [10].
97 Horowitz (n 86) 148.
101 MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 5 April 2002.
pursuing social transformation from the judiciary. However, there are numerous limitations to the efficacy of such a court-dependent strategy in effecting social change. These limitations are both intrinsic and extrinsic to the courts. They are discussed in the next Section.

IV. INTRINSIC FACTORS THAT LIMIT JUDICIAL INTERVENTION

Intrinsic limitations to the judiciary’s capability in making policy changes arise from its institutional limitations and biases. This Section identifies these limitations and their impact in the CNG case. Before undertaking this analysis, it is relevant to note that scholars have identified numerous grounds for arguing against judicial intervention in policy-making. These include the anti-majoritarian nature of the courts; judicial unaccountability; lack of expertise; polycentricity; scarcity of resources and equal priority of rights. While some of these grounds are evidenced in the CNG case, others do not find adequate support. Thus, this discussion is limited to the anti-majoritarian nature of courts, issues of polycentricity, lack of technical expertise and limits to enforcement.

4.1 Anti-Majoritarian Traits of the Court

Many fear that judicial review weakens or subverts parliamentary democracy. This is because courts are unelected bodies that are unaccountable to the people, which allows them to pursue their mandate of constitutionalism, instead of popular will. Constitutionalism is considered to be predicated on constraining the existing majority’s wishes, as one governmental body,
unelected by the people, tells the elected body that its will is incompatible with fundamental aspirations of its citizens.\textsuperscript{110}

It is argued that in cases involving interpretation of the constitution for recognition or enforcement of rights, the courts often adopt arcane interpretations of the constitution that contradict popular will.\textsuperscript{111} Graglia notes that in the USA, the courts give voice to the preferences of the cultural elite at the cost of the interests of the majority.\textsuperscript{112} This argument resonates with Trubek, who argues that judicial intervention and PILs have in fact legitimised the very processes that they sought to challenge, thereby furthering political inequality.\textsuperscript{113}

Even in India, courts have been accused of collaborating with middle class actors and audiences.\textsuperscript{114} The association of environmental movements with civil society organisations rooted in technical expertise and elitist interests casts doubts about the representation of popular interest before the courts. This prejudice is noted in a number of cases, including those relating to hazardous industries, where the Supreme Court ordered resettlement of lower-income groups instead of changing standards of care by setting norms or realigning the market.\textsuperscript{115}

The elitist inclination of the courts can be observed in the CNG case. It is evidenced in two forms relatable to the nature of the litigating parties – their experience in judicial proceedings and the interest groups they represent.

4.1.1 Experience in Judicial Proceedings and Financial Advantages

According to Galanter,\textsuperscript{116} the haves – with litigation experience or financial resources – come out ahead. This is noted in the CNG case as well. Like other socio-economic rights movements that sought court intervention, the CNG case was led by repeat players. Repeat players enjoy the benefit of experience. MC

\begin{footnotes}
\item[112] ibid.
\item[113] ibid.
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Mehta, who initiated the CNG case, is a renowned environmental lawyer. He has advocated for numerous causes and played a role in as many as 40 landmark judgements delivered by Indian courts, of which several were secured by the Supreme Court.\textsuperscript{117}

While the CNG case was filed by Mehta, the CSE, that claims to be a knowledge-based advocacy group, later played a significant role in the fight for a change in vehicular fuel options before the Court.\textsuperscript{118} The organisation received funds from various international donors, such as SIDA and the Ford Foundation.\textsuperscript{119} Furthermore, the presence of its directors on the expert committee established by the Court is indicative of its influence over the process.

While the case was filed by Mehta against government offices, the Society of Indian Automobile Manufacturers (SIAM), a key stakeholder to represent the interest of the automobiles industry, sought to be included in the adjudicatory process as an intervener.\textsuperscript{120} SIAM, as a representative for the automobiles industry, can be reasonably presumed to have enjoyed financial resources for the litigation process.

The access to the Court and influence exercised by these players may be contrasted with another key affected party: bus operators. Private bus operators did not enjoy similar litigating experience or the resources to participate with such a lengthy litigation. As discussed in subsequent Sections of the Article, Indian courts do not advertise on-going litigation though they affect a number of entities that are not party to the proceedings or privy to their existence.\textsuperscript{121} The


\textsuperscript{120} MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 14 March 1991.

fact that the bus operators did not know about the requirement to adopt CNG for 15 months after the Court’s direction is itself an indicator of the lack of informational resources available to them. Moreover, in light of news reports that bus operators could not afford the penalties levied by the Court for violation of the deadline of 31 January 2002 and instead rescinded their permits it is likely that they did not have the financial resources to undertake lengthy legal proceedings. Without these advantages, they could not move the court system to accommodate their demands for time and financial incentives.

Thus, Galanter’s observation that the haves come out ahead holds true for the CNG case. Though civil society organisations represented an interest group that was excluded from participation in governance before other forums, it did so at the expense of another stakeholder – bus operators – who faced greater exclusion in the CNG debate.

4.1.2 Prejudice for the Elite

Various experts have noted the elitist bent of the Supreme Court in the CNG case. They argue that the Court’s decision transferred the blame of pollution and burden of improving air quality to the poorer sections of society. In order to substantiate the argument it is important to review the vehicle use and pollution trends in Delhi.

In its order dated 28 July 1998, the Court required buses and heavy vehicles like trucks and freight vehicles to convert to CNG. However, the vehicular population of buses as a percentage of vehicles in Delhi was low. As indicated in Figure 1 below, buses contributed to less than 2% of the vehicular population between 1971 and 1996. In contrast, cars and two-wheelers contributed to over 20% and 50% of the vehicular population respectively through this time frame. Yet the courts only required buses to convert to CNG.

122 Narain and Bell (n 55).
125 Rajamani (n 118) 303.
126 Pandey (n 31) 2874.
Figure 1: Profile of Vehicular Population in Delhi in Percentage Terms

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Car/Jeep/Station Wagon (Petrol Driven)</td>
<td>30.4%</td>
<td>18.5%</td>
<td>21.1%</td>
<td>23.7%</td>
<td>24.1%</td>
</tr>
<tr>
<td>Scooter/Motorcycle (Petrol)</td>
<td>53.4%</td>
<td>69.3%</td>
<td>68.0%</td>
<td>66.7%</td>
<td>66.3%</td>
</tr>
<tr>
<td>3 Wheeler (Petrol)</td>
<td>5.4%</td>
<td>3.5%</td>
<td>3.6%</td>
<td>3.1%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Taxis (Mostly diesel)</td>
<td>2.0%</td>
<td>0.9%</td>
<td>0.6%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Buses (Diesel)</td>
<td>1.5%</td>
<td>1.6%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Goods Vehicle (Diesel)</td>
<td>7.4%</td>
<td>6.1%</td>
<td>5.6%</td>
<td>4.9%</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

In this regard, it is important to refer to the emission trends for buses as well. The Court, in its order dated 14 November 1990, noted that the emissions from the buses were more dangerous and larger in quantity since they ran on diesel. Similarly, per-kilometre emissions in grams for buses and trucks were the largest.\(^{127}\)

This argument can, however, be countered by the growth rate of other vehicles, such as cars, during the same time, that could offset a change in the pollution levels of buses and trucks. The growth rate of cars has been on the rise since 1971.\(^{128}\) During 1970-1980s, while the population of Delhi grew the rate of 5-6%, Delhi’s motor vehicle fleet grew at an annual rate of 20%.\(^{129}\) As indicated in Pandey’s analysis in Figure 2 below, the growth rate for cars was 17.05% between 1985 and 1990.\(^{130}\) In the 1990s it is indicated to have increased.

Figure 2: Vehicular Pollution in Delhi: Profile of Growth Rate

<table>
<thead>
<tr>
<th>Category</th>
<th>1985-1990</th>
<th>1990-95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car (petrol)</td>
<td>17.05</td>
<td>10.76</td>
</tr>
<tr>
<td>Scooter/bike (petrol)</td>
<td>12.66</td>
<td>13.96</td>
</tr>
<tr>
<td>3 wheelers</td>
<td>14.48</td>
<td>4.92</td>
</tr>
<tr>
<td>Taxis (mostly petrol)</td>
<td>2.38</td>
<td>5.92</td>
</tr>
<tr>
<td>Buses (Diesel)</td>
<td>5.15</td>
<td>7.63</td>
</tr>
<tr>
<td>Goods vehicles (Diesel)</td>
<td>12.09</td>
<td>5.46</td>
</tr>
</tbody>
</table>


This is particularly important, as preference between different vehicles and modes of transportation varies according to economic class. Buses are primarily used by persons in the lower-income group.\(^{131}\) A survey conducted by RITES on

\(^{127}\) ibid 2875.
\(^{128}\) ibid.
\(^{129}\) Badami, Tiwari and Mohan (n 42) 5.
\(^{130}\) Pandey (n 31) 2874.
\(^{131}\) Badami, Tiwari, and Mohan (n 42) 4.
the use of public transport in Delhi indicated that apart from walking, persons in this income group relied primarily upon buses for transport.\footnote{RITES/ORG, ‘Household Travel Surveys in Delhi, Final Report, New Delhi and Baroda’ (Rail India Technical and Economic Services Ltd, Operations Research Group 1994)} Thus, after the implementation of the Court’s order, they rely upon the least polluting means of transport.\footnote{Badami, Tiwari and Mohan (n 42) 98.}

As noted by Kumar and Foster, non-CNG vehicles are one of the largest sources of polluting particles.\footnote{Naresh Kumar and Andrew D Foster, ‘Have CNG Regulations in Delhi Done Their Job?’ (2007) 42(51) Economic and Political Weekly 48, 55.} In Delhi, per minute emissions for non-CNG cars were the highest source of pollution.\footnote{Ibid 52.} Therefore, emission levels reduced by the CNG regulations could have been neutralised by the addition of new diesel-based cars and unchecked emission from industries and non-CNG heavy vehicles.\footnote{Ibid 57.}

Through this discussion it is evident that, while the Court took measures against buses that were used by the lower-income groups, it did not take into account the environmental costs that were created by the higher-income groups’ vehicles of choice.\footnote{Rajamani (n 118) 306, 320; Bhushan (n 114).} Thus, the Court affected the consumption and pollution patterns of the poor without requiring concomitant changes in the consumption behaviour of the higher economic classes. According to Baviskar this difference in treatment and elitism is in fact the hallmark of environmentalism in India.\footnote{Baviskar (n 124) 161.}

The implications of failure to curb emissions from privately-driven diesel cars were noted by the EPCA.\footnote{Environment Pollution (Prevention and Control) Authority (EPCA), ‘Restriction on the plying of diesel-driven (private) vehicles in the NCR’ (EPCA 1999).} However, the Court failed to take measures to combat the rise in pollution caused by diesel cars. It was only in 2014 that the Court intervened to address the impact of diesel-driven cars on air pollution in Delhi.

\subsection*{4.2 Polycentricity and Formalistic Nature of Court Proceedings}

It is argued that courts are unsuited for resolving polycentric disputes, since these require innovative solutions and negotiation. Socio-economic rights enforcement cases are considered to be polycentric. A polycentric problem is
one that comprises a large and complicated web of interdependent relationships, such that a change to one factor produces an incalculable series of changes to other factors. Since social rights, such as rights to housing, education, health and environment, involve resource allocations, any determination on enforcement of these rights would affect a multitude of interests and are therefore ‘preponderantly polycentric’. Polycentric disputes involve a large number of parties or interest groups whose interests are better safeguarded through negotiations and the ability to develop compromises. This is however hard to achieve in judicial forums.

4.2.1 Under-representative

As noted by Felstiner, Abel, and Sarat, formal adjudicatory processes exclude disputants who lack financial resources, experience, knowledge about the litigation process and social influences that are conducive to litigation. Under-representation of certain classes can make the courts unaware of their interests and impact the nature of the decision made by the courts. Thus, while polycentric disputes involve a number of interests, it is likely, that without adequate resources, only a few would be represented, even though the courts’ decision affects them all.

Moreover, courts in India do not advertise the cases before them, or the subject matter to which they relate. The problem is heightened in public interest litigation cases, where parties are not easily identifiable and impleaded. Parties to the proceeding may seek to implead necessary parties. However, no attempt is made by the courts to inform the public about the nature of the dispute that is brought before it. Robinson notes that ‘in most PILs, the public largely finds out about the case only after the court has given its directions, even though orders in these cases will frequently directly impact many people’s lives’.

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140 Fuller and Winston (n 105) 353.
142 Fuller and Winston (n 105); Menkel-Meadow (n 105).
144 Rajamani (n 118) 306.
145 Rajamani (n 118) 293.
146 Robinson (n 121).
147 ibid.
This problem is evident in the CNG case as well. Though the case began in 1985, some of the key stakeholders were not impleaded. For instance, automobile manufacturers, who were indispensable for the implementation of the order, were only allowed to intervene in the proceedings in 1991, through the Association of Indian Automobile Manufacturers. Similarly, representatives of commercial transport service providers were not included in the policy-making process. This is particularly surprising as the private bus operators owned 62.74% of the bus fleet. A number of these were in fact run by cooperatives and ex-servicemen who could only run a maximum of five such buses.

The interests of bus operators were not kept in mind by the Court. While it directed that financial incentives be given to autos and taxis to adopt CNG, similar provisions were not made for private buses. Transport operators preferred low-sulphur diesel as neither could afford to junk their old buses and buy new ones to run on CNG, nor were they provided adequate incentives by the Court or the government. A number of bus operators in fact had borrowed loans from the government to buy diesel buses as late as 1998-99. It is likely that this was on account of the lack of availability of CNG. The low availability of CNG meant that bus operators ran into losses since buses had to queue for hours for fuel, missing out on commuter traffic while they still had loans on the buses to repay.

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150 ibid 12.


152 ibid.


155 Centre for Science and Environment (n 153).

156 ibid.
Evidently, the operators required financial assistance in order to make the shift.\textsuperscript{157} However, without having them on board during the policy development stages, their concerns were not considered by the Court or the government.\textsuperscript{158} Instead, the cost to public health was transferred to them without assistance from the government.

According to Faure, bus and taxi operators were only informed of the requirement to convert to CNG 15 months after the Court’s order.\textsuperscript{159} This resulted in frustration amongst bus and taxi operators, who refused to abide by a decision they were not privy to. Not surprisingly, in January 2001, nearly two years after the Court’s direction, private bus operators in Delhi claimed that they had no knowledge of the litigation and the Court’s directions.\textsuperscript{160}

4.2.2 Justice-Oriented Limits to Adjudication

Since polycentric disputes involve a multitude of interests, their resolution involves prioritisation of claims, innovative solutions, and political trades. However, as noted by Nozick, courts are bound by the idea of the absolute nature of rights, which cannot be reconciled with flexibility in allocations.\textsuperscript{161} Developing compromises between parties requires trade-offs between them. However, as noted by Horowitz, since courts have to be politically neutral, they do not have the currency to make political compromises.\textsuperscript{162}

In the CNG case, the Court’s limitations were witnessed in its inability to bring about a compromise between different interest groups and their rights. The case involved, among others, the competing interests of right to a clean environment, right to health, and the right to work of residents of Delhi.\textsuperscript{163} In this regard, it is useful to refer to bus use trends to identify the groups that were affected and the rights that were denied.

\begin{itemize}
  \item \textsuperscript{157} BBC (n 154).
  \item \textsuperscript{158} Rajamani (n 118) 306, 320.
  \item \textsuperscript{159} Michael G Faure and AV Raja, ‘Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables’ (2010) 21(2) Fordham Environmental Law Review 239, 271.
  \item \textsuperscript{160} ibid; Ruth Greenspan Bell and others, ‘Logjam on Air Quality Reforms’ (2004) 46(3) Environment 22, 29.
  \item \textsuperscript{161} Nozick (n 106) 237.
  \item \textsuperscript{162} Horowitz (n 86) 151.
  \item \textsuperscript{163} Rajamani (n 118) 293, 319-20; Michael Jackson and Armin Rosencranz, ‘The Delhi Pollution Case: Can the Supreme Court Manage the Environment?’ (2003) 33(2) Environmental Policy and Law 88, 90.
\end{itemize}
According to RITES, 40% of bus trips are undertaken for work purposes, and 42% for education purposes.\textsuperscript{164} Given that buses are primarily used by the lower-income groups, disruption in bus services would affect them and their occupation and education most. This is aggravated by the fact that their ability to withstand the shock of inaccessibility of buses and lack of alternate modes of transport is low. The change in fuel policy, forcing buses to use CNG, was not implemented smoothly and resulted in disruptions. Consequently, the lower-income group was affected by the lack of access to buses, and suffered inconvenience in attending to their work and education.

While the Court did allow a delay in the implementation of the order, it did not seek to provide any settlement for the loss suffered by the people. By giving prime importance to environmental justice, the Court failed to recognise the non-alignment of interests in its decision-making process. This resulted not only in a refusal to implement the order by bus and taxi operators\textsuperscript{165} but also frustration among the commuters.\textsuperscript{166}

This can be contrasted with the discussion-based, inclusive process adopted in Basel, Switzerland for conversion to CNG. Here, the government, car manufacturing industry and Swiss Federal Institutes of Technology worked together to develop an alternate fuel policy with a long-term focus.\textsuperscript{167} Through this process, the government sought the opinion of the people through various tools, including opinion polls.\textsuperscript{168}

\subsection*{4.2.3 Nature of Proceedings}

While policy-making requires collaboration, courts provide an adversarial forum for policy decisions. In fact, the underlying commitment of public interest lawyers ‘is not to specific platforms, whether liberal or conservative, it is rather to the adversary process system itself’.\textsuperscript{169} This limits the courts’ ability to develop a solution that is conducive in promoting all interests and easily implemented.

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{164} RITES/ORG (n 132); Badami, Tiwari and Mohan (n 42) 8.
\item \textsuperscript{166} Faure and Raja (n 159) 270-71.
\item \textsuperscript{167} Narain and Bell (n 55) 42.
\item \textsuperscript{168} ibid.
\item \textsuperscript{169} Sax (n 98) 82.
\end{enumerate}
\end{footnotesize}
Tuler notes that there is a dual role for participants in policy discourse – speakers and listeners. In a monologic form of discourse, the speaker’s claims would be heard by the participants with the aim of identifying holes until the argument collapses from inconsistencies and contradictions. In contrast, in a process which is dialogical, participants will help to close the holes in the argument. Adversarial forums are monologic and do not further collaborative effort.

The limitations of the adversarial process were evident in the CNG case. For instance, there appears to have been little agreement about the gravity of the problem of air pollution even a decade after the initiation of the case. Governments at both the federal and the state level indulged in politicking over air pollution. The Chief Minister of Delhi refused to implement a Union Government order requiring the phasing out of commercial vehicles over 15 years old in the interest of residents’ health.

Moreover, even after the Court’s order for conversion to CNG, the Delhi government was not convinced about the efficacy of the new fuel to address environmental problems. The Union Government set up a committee on 13 September 2001 to examine the problem of vehicular pollution after the Court’s direction.

In fact, the Court, noting the adversarial nature of proceedings, required the establishment of expert committees for deliberation over the opinions of different participants. However, experts have argued that the process adopted was not participatory and public opinion was sought on an ad hoc basis. Furthermore, while the committee was charged with the responsibility of considering the opinion of participants, its recommendations were not developed by the participants collaboratively. The process resulted in the substitution of deliberation by expertisation. This was aggravated by the fact

171 Ibid.
172 Ibid.
173 Centre for Science and Environment ‘The Leapfrog Factor’ (n 36) 7.
175 ibid 7.
176 Narain and Bell (n 55) 6.
177 Rajamani (n 118) 304.
that the technical nature of the issue was not simplified for the masses who were affected by the change and could not contribute to the decision.179

The working of the expert committees was thus an extension of the problem of under-representation and expertisation of political issues.180 As noted earlier, legal proceedings are attractive for reform-minded professional lawyers and lobbyists, but not for a majority of citizens who lack equal resources of time, money, skill, experience and ongoing organisational support.181 The committees established by the Court did not overcome the failings of the adjudicatory process in providing a forum for a collaborative, transparent and dialogical mechanism for policy-making.

The Court’s order to adopt CNG was therefore taken without a consensus between the parties and did not address the concerns of different disputants. While the Court adopted measures to ensure discussion between parties before the EPCA, the mechanism appears to have been inadequate in addressing the multitude of concerns involved, making the Court an unsuitable forum for policy decisions and socio-economic rights enforcement.

4.3 Lack of Expertise

Experts such as Horowitz argue that the courts’ inability to effect a change is also based on the judiciary’s lack of expertise, which is crucial for social reform. 182 Reforming existing bureaucratic structures requires intensive analysis, which the courts cannot conduct, nor can they develop skills to undertake such analysis due to paucity of time.183 To some extent, this problem has been addressed through reliance upon expert committees.184 However, as is noted in the CNG case, in the event of contradictory recommendations of different committees (discussed in the next sub-section), the Court may not have the expertise to make a choice.


180 Kennedy (n 2) 170.


4.3.1 **Constraints Arising From Manner of Litigation and Legal Culture**

The manner of litigation also impacts the degree of expertise at the disposal of the courts. For instance, in the United States of America, class action suits often claim damages, and lawyers are entitled to contingency fees. This provides litigants, and their lawyers, incentive to conduct independent investigations, engage experts and increase public awareness.

On the other hand, India’s legal culture acts as an impediment to empowerment of public interest lawyers in bringing evidence and expertise to court. This is because litigants in PIL cases are *pro bono publico*, who lack financial resources and whose prime asset is their social commitment. Secondly, under the Bar Council of India Rules 1975, charging contingency fees is prohibited in India. Thus, public interest lawyers can only seek to charge their clients for the services rendered, without a result-oriented incentive to invest financial resources, for instance, on expert evidence.

This lacuna has been addressed by the Court through assistance of expert committees. However, as noted by Koonan in another case study of public interest litigation, there are often a multitude of committees that are set up, a technique meant to side-track the process and create suspicion about the results. In the present case, the Court itself established three committees of which the Saikia and the Bhure Lal Committees are the most relevant. Apart from this, in 2001, the government too initiated its own research under the Mashelkar Committee.

Not surprisingly, the conclusion of the studies and their recommendations differed. While the Bhure Lal Committee named CNG as the clean fuel, the Mahselkar committee was of the view that emission norms should be laid out.

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185 ibid.
187 Sujith Koonan, ‘Groundwater: Legal Aspects of the Plachimada Dispute’ in Philippe Cullet and others (eds), *Water Governance in Motion: Towards Socially and Environmentally Sustainable Water Laws* (CUP 2010) 159-98; Baxi (n 74) 107, 124.
188 Narain and Bell (n 55) 5-6.
190 EPCA, ‘Report on the Urgent Need to Augment and Restructure the Delhi Bus Transport System to Help Mitigate Air Pollution in the City’ (n 149) 21.
This view was also supported by TERI.\textsuperscript{192} Scientists such as Dr Rajendra Kumar Pachauri noted that the adoption of a fuel on such a scale without adequate testing was unprecedented.\textsuperscript{193} Various other groups identified proposals that gave public transport a push over commercial and private vehicles.\textsuperscript{194}

Despite these conflicting views to wade through, the Supreme Court did not allow research groups time to conclude their experiments. It instead decided to rely upon the recommendations of the Bhure Lal Committee, even though the government was not convinced about the efficacy of the fuel. In paragraph 7 of its order dated 5 April 2002, the Court reasoned that the Mashelkar Committee’s recommendations were not acceptable as it did not have a public health expert on its board.

The decision to prefer a shift to CNG over other options, such as ultra-low sulphur diesel, better technologies, or merely prescribing emission norms, has reduced the market’s flexibility to shift to cleaner technologies.\textsuperscript{195} In the absence of inherent expertise to choose between the contradictory recommendations, there has been significant criticism by scientists and the legal community.\textsuperscript{196}

The Court’s lack of expertise is also evident in the failure of the Court’s decision in addressing the problem of vehicular air pollution in Delhi. Moreover, as discussed in the following Section, the decision had unforeseen consequences for the neighbouring areas.

4.3.2 Constraints Arising From Lack of Foresight

Horowitz notes that Courts can determine policy successfully, where, among other things, the consequences of the decision are limited in scope and are generally foreseeable.\textsuperscript{197} However, in relation to socio-ecological disputes, the knowledge necessary to promote social adjustment does not exist as a coherent

\begin{footnotes}
\footnote{194}{Sharma (n 192) 2-3.}
\footnote{195}{Ramachandran (n 100).}
\footnote{196}{TCA Anant and Jaivir Singh, ‘An Economic Analysis of Judicial Activism’ (2002) 37(43) Economic and Political Weekly 4433, 4438.}
\footnote{197}{Horowitz (n 86) 148.}
\end{footnotes}
whole but is widely scattered across hundreds of thousands, and in some circumstances, millions of actors, most of whom are completely unknown to each other. Thus, judicial policy-making in such disputes is likely to be particularly ineffective.

The failure of the Supreme Court to foresee the consequences of its decision is evident in two ways. First, the rise in pollution within Delhi is indicative of the failure of the Court’s policy to curtail pollution. As indicated in the timeline, the pollution levels in the city have skyrocketed since the Court’s decision to convert all buses to CNG. The Court did not foresee the rise in residents’ income levels and their preference for diesel cars over public transport or petrol-driven cars.

Second, implementation of the Court’s decision was followed by a reduction in emission and particulate matter levels in Delhi, but a rise in the same levels in the surrounding areas. Kumar and Foster note that the levels of air pollution within 2 km outside Delhi were significantly higher than those in the areas within 2 km inside of Delhi’s border. They argue that relocation of polluting vehicles from Delhi to its neighbouring areas as a result of the Court’s decision has contributed to the rise in pollution levels in these areas.

Thus, though the Court was able to effect a change in the regulation, it was unable to address the concerns of the social movement, or alter consumption patterns of the rich.

4.4 Legitimation of Existing Structures and Limited Impact

Galanter argues that litigation does not lead to redistribution of tangible resources, instead only symbolic rewards are redistributed to have-nots. Similarly, Pieterse argues that gains from judicial intervention are achievable only progressively. Social action litigation in India has for decades, with ‘creeping jurisdiction’ of the courts, granted piecemeal rewards to the

199 Guttikunda (n 69) 25.
200 Kumar and Foster (n 134) 52-53.
201 ibid 54.
202 ibid 50.
203 Galanter (n 116) 138.
litigants. Such rewards tend to fractionalise political action, and have the ability to decrease the capacity and drive to secure redistribution of tangible benefits.

The impact of the creeping jurisdiction of the Supreme Court is noticeable in the CNG case as well. The Court’s decision did not treat modes of transport used by different economic classes equally, resulting in fractionalisation and a premature satiation of the movement.

4.4.1 Symbolic but Intangible Rewards

The Court required buses to convert to CNG, but cars were not forbidden from use of polluting fuels such as diesel or petrol. The need to address the impending impact of an increase in diesel cars on pollution-combating strategies was not addressed by the Court, which left the executive to take decisions in this regard. Notably, the share of diesel vehicles within new car sales in Delhi has increased from 4% to about 50%, and as noted by the EPCA, it has undone the positive impact of the CNG conversion by buses.

The Court’s decision to require buses to change to CNG did bring about a change in the air pollution levels between 2002 and 2005. However, the change was insignificant in the face of a rise in diesel car population in Delhi. Thus, while the clean air campaign and Mehta’s petition aimed at addressing air pollution, the Court changed the PIL’s focus to CNG use by buses and road safety. For instance, in various orders between 2002 and 2014, the Court has been tracking the provision of CNG in the city. On other occasions, such as in its order dated 2 November 2007, the Court dealt with the hazards of hoardings and other visual clutter while driving and the mandatory requirement of wearing seatbelts. The latter is even more surprising as it has little to do with

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205 Baxi (n 74) 122.
207 Michael Lipsky, Protest in City Politics: Rent Strikes, Housing and the Power of the Poor (Rand McNally and Co 1970) 176.
208 Jackson and Rosencranz (n 163) 90.
210 EPCA, ‘Report on the Urgent Need to Augment and Restructure the Delhi Bus Transport System to Help Mitigate Air Pollution in the City’ (n 149) 6.
211 Guttikunda (n 69) 24; EPCA ‘Report on Priority Measures to Reduce Air Pollution and Protect Public Health’ (n 209) 2.
the mandate with which the petitioner had approached the Court – enforcement of the Air Act.

Thus, despite the fact that the deterioration in air quality in Delhi was highlighted by EPCA and CSOs212 no action was taken by the Court. Only on 10 February 2014, after Delhi’s pollution hazards received international attention, did the Court initiate the debate on the fuel for personal vehicles.

4.4.2 Fractionalisation of the Campaign

Following the decision of the Supreme Court, the metaphoric ‘environmental rucksack’213 was transferred from high income classes to the urban poor.214 While vehicular air pollution carries health risks for all residents, its impact on the poor is higher. This is ironic, since the poor contribute the least to vehicular pollution.215

The National Family Health Survey for Delhi reveals that the morbidity rate for tuberculosis amongst the low-, medium- and high-income groups was 0.84, 0.62 and 0 respectively.216 Even in the case of asthma, the low-income group suffers from a morbidity rate of 0.84, while the high-income group has a morbidity rate of 0.21.217 Higher impact of air pollution on the poor is on account of lack of resources and education, as well as higher exposure to polluting environments.218 Thus, while the poor adopt the least polluting means of transport, they bear the largest burden of the risks associated with pollution.219

Moreover, the low-income group lacks the ability to approach the courts to address non-compliance with socio-economic rights.220 Thus, while the order to convert to CNG was celebrated as a success, the health risks for the poor continued to grow, without successful representation before the Court till it

214 Baviskar (n 124) 173.
215 Tiwari, ‘Urban Transport Priorities’ (n 42) 98.
216 Garg (n 81) 1004.
217 ibid.
218 ibid; Badami, Tiwari and Mohan (n 42).
219 ibid.
220 McCann (n 181) 200.
took note of the EPCA report in 2014, when the international community declared Delhi unliveable.

4.5 Implementation Glitches

4.5.1 Lack of Control over the Bureaucracy

As noted by Hamilton, courts are considered the least dangerous branch of the government.221 This is because while the Court can issue orders, it requires support of the bureaucracy to enforce its decisions. However, the Court does not enjoy control over the bureaucracy and it risks losing its support when it enters into the domain of policy-making.222 While contempt proceedings can be initiated for failure to implement an order of the Court, such proceedings can be counter-productive.223

The failure of the Court to implement its decisions was noted in the CNG case as well. As noted by the Chairman of the Delhi Transport Corporation (DTC), the judicial fiat requiring the setting up of CNG infrastructure to meet the demand was not taken seriously by anyone till January 2000. 224 The establishment of the Mashelkar Committee to scrutinise the recommendations of the Supreme Court itself is an indicator of the lack of coordination between the judiciary and the executive.

The government’s response to the Court’s order did not escape the Court’s notice. It expressed distress over the executive’s stand and statements in the media in its order dated 4 April 2001. The Court stated that:

We are distressed at certain reports which have appeared in the print and electronic media, exhibiting defiant attitude on the part of the Delhi Administration to comply with our orders. The attitude, as reflected in the newspapers/electronic media, if correct, is wholly objectionable and not acceptable.225

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222 Rosenberg (n 8) 15-16.
223 Rosenberg (n 8); Balmé and Dowdle (n 108).
224 Mehta (n 151) 3.
225 MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 4 April 2001 [11].
While making its observations, the Court came very close to initiating contempt proceedings.\textsuperscript{226} However, it settled for affidavits from government agencies about their stand on the Court’s directions and their statements to the media.

While the Court had ordered the conversion of buses to CNG in 1998 to be completed by 2001, it was not until 1 December 2002 that the order was in fact implemented. Even when the order was enforced, more than half of the city’s bus fleet had to be pulled off the streets since it did not comply with the fuel norms.\textsuperscript{227}

### 4.5.2 Lack of Coordination

Apart from not having control over the bureaucracy, the judiciary cannot coordinate with the different departments of the government. In order to keep abreast of the status of implementation of its orders, the judiciary has developed a supervisory jurisdiction.\textsuperscript{228} While this is a useful mechanism to ensure compliance, the judiciary is not capable of securing live updates. As is noted in the CNG case, lack of knowledge of developments in various departments led to implementation glitches and delays.

The lack of coordination was noted in a number of instances. For one, the Ministry of Petroleum had initially informed the Court that there was adequate natural gas to undertake a shift to CNG. However, bus operators complained about the lack of CNG and refused to adopt it.\textsuperscript{229} When the Court’s order for adoption of CNG was not implemented, it was revealed that the fuel was not available in adequate supply.\textsuperscript{230} In September 2001, the government informed the Court that the availability of natural gas was limited as it was required for power generation as well. Thus, the incapacity of the Court to engage with government departments on a constant basis, and multiple chains of command, led to delays and confusion in the implementation of the order.

\textsuperscript{226} Mehta (n 151) 4.

\textsuperscript{227} BBC (n 154).


\textsuperscript{230} Mehta (n 151) 4.
4.6 Impact of Intrinsic Limitations on the Social Movement

In the CNG case, Kennedy’s words of caution about the law and development movement’s substitution of political debate with judicialisation ring true. CSOs’ adoption of judicial intervention for change impacted spaces for public participation and debate on air quality and health risks. These were shifted to the courts and the process for developing solutions was expertised. As noted by Menkel-Meadow, solutions depend on the processes through which they are developed. Consequently, in keeping with Scheingold’s apprehension, the movement was fractionalised as its decisions were not suitable to all; treated transport means differently; and had different consequences for different commuters and residents who had equal rights to environment and work. Commuters became disenchanted with the poor execution of change in fuel policy. Mass media gave little attention to the plight of the poor whose suffering increased over the years.

Thus, because social activists did not seek to overcome the institutional limitations of the courts by adopting participatory and inclusive methods, in the long run, the award was ineffective. In the following Section, it is argued that the limitations of the courts are in fact symptomatic of the contextual constraints within which it operates. Thus, CSOs that aim to bring social change should be wary of these factors and address them while seeking judicial intervention.

V. EXTRINSIC FACTORS THAT LIMIT JUDICIAL INTERVENTION

Court decisions requiring social change are not automatically implementable, and require certain circumstances to become effective. Furthermore, the courts are wary about their limitations, and refrain from putting themselves in no-win situations where their decisions would not be implemented, risking their legitimacy. Similarly, the delayed adoption of CNG and the differential treatment of public and personal transport cars can be explained by taking into account the circumstances within which the Court was operating. In order to support this argument, reliance is placed on Rosenberg’s theory that courts are effective in bringing about social change in the presence of certain factors.

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231 Menkel-Meadow (n 105).
232 Rosenberg (n 8) 32.
233 ibid 19.
Rosenberg highlights four circumstances where the judiciary is effective in producing social reform: first, where other actors offer positive incentives to induce compliance; second, when other actors impose costs to induce compliance; third, when the judicial decision can be implemented by the market; four, where courts act as a shield for persons who are crucial for implementing the court’s order and are in fact willing to implement it. This Section highlights factors that affected two aspects of the Court’s response: first, the requirement for buses and private vehicles to adopt CNG; second, where the Court refrained from imposing strict emission norms or a similar obligation to adopt CNG on personal vehicles.

5.1 Incentives to Induce Compliance

According to Rosenberg, compliance with court decisions requiring social reform would be effective if there were rewards for compliance. Incentives may be monetary and may include benefits that accrue to the parties on compliance. In the CNG case, introduction of incentives assisted in the implementation of the order, even though these were introduced belatedly when non-compliance was imminent, and targeted only a certain class of vehicles.

Financial incentives for auto-rickshaws and taxis were effective in ensuring compliance with the order of 28 July 1998. The Bhure Lal Committee, which consisted of government representatives, had also recommended the introduction of financial incentives. The Supreme Court, in its order dated 28 July 1998, directed the government to provide financial assistance to taxi and auto-rickshaw operators. Accordingly, the government created financial incentives by way of cheap loans from the Delhi Finance Corporation for replacement of old taxis and auto-rickshaws and hastened the process of conversion to CNG.

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234 ibid 33-35.
235 ibid 33.
236 ibid 32.
238 Mehta (n 151) 3.
The government also provided sales-tax exemptions on purchase of new CNG driven auto-rickshaws and taxis. Thus, despite constraints, like non-availability of CNG auto-rickshaws and retro-fitment kits, the government of Delhi was instrumental in getting 47,000 auto-rickshaws upgraded to CNG, which constituted the bulk of CNG vehicles in 2001.

The adoption of CNG by buses did not progress with as much ease. This was on account of the lack of financial incentives. The Supreme Court, in its order dated 28 July 1998, had directed the government to provide financial incentives to bus operators. However, in 2001, the government stated that it was not in a position to give such assistance.

It appears that the CSOs that sought the change in fuel did provide active support to bus operators in their demands for financial assistance. News reports on the strikes do not evidence collaboration between the two sets of actors. Furthermore, Anil Agarwal is quoted to have said, ‘[w]e make recommendations, but who is to follow’. It appears that the CSOs believed that the onus lay on the government. They did not perceive themselves to have a role in ensuring compliance.

Not surprisingly, it took buses longer than auto-rickshaws and taxis to accept the change in fuel to CNG. For instance, during the transport strikes of 2001 and 2002, while CNG taxis and auto-rickshaw operators protested over the non-availability of CNG and increase in CNG prices, bus operators protested over the adoption of CNG itself.

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239 Narain and Bell (n 55) 11, 23.
241 ibid 7; Das and Mukherjee (n 189) 133; Rajalakshmi, ‘The CNG Conundrum’ (Frontline, September 2001) <http://www.frontline.in/static/html/fl1818/18181200.htm> accessed 12 September 2014.
242 MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 17 January 2001.
244 Dugger (n 229).
246 Rajalakshmi (n 241).
Despite the lack of government support in creating incentives for the bus operators, the Court created incentives by bargaining with the bus operators for a promise to adopt CNG, in lieu of an extension to ply diesel buses. In its order dated 26 March 2001, four days prior to the deadline for conversion, the Supreme Court noted that no action was taken by private bus operators, who owned over 9,000 of the 12,000 to 14,000-strong bus fleet, to comply with the order of conversion. Taking advantage of the situation, the Court creatively introduced an incentive for the adoption of CNG. It directed that the operators be granted permission to ply diesel buses till 30 September 2001, if they placed orders for CNG buses by 31 March 2001.247 According to Kathuria, the incentive of a conditional permission had a positive impact on the conversion of buses to CNG and compliance with the order.248 Thus, by allowing buses to ply using diesel, with the promise to adopt CNG, the Court bought the consent of the bus operators.

On the other hand, in relation to the personal vehicles’ sector, no such incentives were created. As noted by the Supreme Court in its order dated 27 January 2001, the government had already stated its inability to provide financial assistance to buses249 which were far fewer in number than personal vehicles.250 Moreover, in its orders dated 21 October 1994 and 26 April 1996, the Court had also noted economic unfeasibility of requiring adoption of CNG in cars. It therefore required the adoption of alternative mechanisms to reduce vehicular pollution from personal vehicles, such as catalytic converters. In this regard, the government provided incentives to two and three-wheel vehicle owners by subsidising the cost of the converter to Rs 1,000.251 The government also incentivised the use of catalytic converters by allowing registration of cars in Delhi only if they were installed with the device.252 Accordingly, the Court’s direction to use catalytic converters was successfully complied with.253

As noted above, court decisions are effective in the presence of incentives to compliance. Thus, it is likely that the economic unfeasibility of requiring adoption of CNG by personal vehicle owners and car manufacturers, and the lack of support of the executive in providing incentives to make similar upgrades, deterred the Court from directing its use. Yet, other monetary and non-monetary benefits existed for preferring CNG to diesel and petrol. CNG

247 ibid.
248 Kathuria (n 68) 411.
249 United Nations Environment Programme (n 240).
250 Pandey (n 31).
251 Narain and Bell (n 55) 9.
252 ibid.
253 Iyer (n 58) 59.
has been consistently cheaper than petrol.\textsuperscript{254} Furthermore, use of CNG would allow residents to enjoy better air quality.

However, as will be noted in subsequent sub-sections, there were other disincentives that reduced the popularity of CNG, limiting the Court’s ability to bring social change by requiring further conversion of vehicles to CNG, resulting in the limited solution awarded by the Court.

5.2 \textbf{Imposition of Costs to Ensure Compliance}

Probably the greatest incentive to compliance by bus owners with the court order was the imposition of penalties for non-compliance. As noted by Rosenberg, where other actors (the transport department and traffic police in this case) impose costs, courts are in a position to bring about social reform.\textsuperscript{255} Thus, in order for court decisions to be effective, enforcement agencies must have the required resources to implement the order. In the event the orders require an overhaul of the existing mechanisms, it is likely that the decisions may not be enforced. Thus, court decisions are likely to provide incremental relief instead.\textsuperscript{256} In the CNG case, while the government had the resources to ensure conversion of buses and other commercial transport vehicles to CNG, it did not have the resources to enforce stricter standards for personal vehicles.

As is evident in the CNG case, penalties were essential for securing the compliance of bus and commercial vehicle operators. Despite the presence of incentives, such as the lower price of CNG, conversion of the public transport fleet to CNG was sluggish. As indicated in Figure 3 below, the unpopularity of CNG amongst rickshaw and bus operators grew throughout 2001.

As per news reports, two reasons are evidenced for CNG’s unpopularity. \textit{First}, as noted earlier, bus operators, who comprised primarily of cooperative groups and ex-servicemen,\textsuperscript{257} were facing financial constraints in upgrading to CNG and did not have access to cheap loans for undertaking the exercise.\textsuperscript{258} \textit{Second}, the availability of CNG was not assured. In its statement before the Court on 5 April 2002, Indraprastha Gas Limited, a government company which was

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{255} Rosenberg (n 8) 33.
\item \textsuperscript{256} ibid 140.
\item \textsuperscript{257} EPCA, ‘Report on the Urgent Need to Augment and Restructure the Delhi Bus Transport System to Help Mitigate Air Pollution in the City’ (n 149) 12.
\item \textsuperscript{258} Rajalakshmi (n 241).
\end{itemize}
\end{footnotesize}
responsible for the supply of natural gas to the city, stated that the supply of
CNG was inadequate to meet the needs of the transport sector. Moreover, the
infrastructure for CNG distribution was constrained by the lack of compression
capacity at refuelling stations, and the poor distribution of refuelling stations
across the city.259

According to Mehta, the low availability of CNG, coupled with the sudden
conversion of 2,000 buses to CNG, resulted in an acute shortage.260 DTC was
incurring dead mileage of nearly 13,000 kilometres per day since there were only
nine CNG filling stations whereas CNG buses are parked in 25 depots. Buses and
auto-rickshaws announced several strikes, which had become a recurrent feature
in the landscape of urban life in Delhi, between 2001 and 2002 (See Figure 3).
Thus, securing compliance to the court order was not easy. Yet, by 1 December
2002, all of Delhi’s public transport had converted to CNG.261

Figure 3: Incidence of protests over adoption of CNG in Delhi

<table>
<thead>
<tr>
<th>Date</th>
<th>Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 March 2001</td>
<td>Partial strikes held by auto and taxi owners</td>
</tr>
<tr>
<td>16 April 2001</td>
<td>Bus operators go on a two day strike in Delhi</td>
</tr>
<tr>
<td>6 August 2001</td>
<td>Protest held in Delhi over CNG introduction</td>
</tr>
<tr>
<td>10 August 2001</td>
<td>All commercial vehicles go on strike in Delhi</td>
</tr>
<tr>
<td>28 August 2001</td>
<td>Bus, auto rickshaw and taxi owners strike for a day</td>
</tr>
<tr>
<td>27 September 2001</td>
<td>Bus owners engaged in hunger strike unto death</td>
</tr>
</tbody>
</table>

Sources: Kathuria 2004;262 Rajalakshmi 2001;263 The Hindu 2001;264 Dugger 2001.265

To a great extent this was possible because the executive worked towards the
compliance of the order. The Bhure Lal Committee had recommended that the
Court introduce a ‘deterrent financial penalty’ on bus operators that violated
the Court’s order directing conversion of buses to CNG.266 Accordingly, on 6
April 2002, the Court ordered a fine of Rs 500 per day of non-compliance with
the extended deadline of 31 March 2002.267

259 Rajalakshmi (n 241).
260 Mehta (n 151) 6.
261 Kathuria (n 68) 411.
262 ibid.
263 Rajalakshmi (n 241).
264 The Hindu (n 165)
265 Dugger (n 229).
266 EPCA, ‘Report on Clean Fuels: In Response to the Hon’ble Supreme Court Order Dated
March 26, 2001 and April 27, 2001’ (n 237) 17.
267 Kathuria (n 68) 412.
With the support of the executive, the Court was able to ensure collection of fines and removal of polluting buses from Delhi roads. Accordingly, bus operators were forced to pay the penalty for 7,000 violating buses.\textsuperscript{268} The government collected a fine of Rs 12.83 lakh (Rs 1,283,000) from offending buses.\textsuperscript{269} Notably, 50% of the operators surrendered their permits.\textsuperscript{270}

In relation to personal vehicles, it must be noted that the Court was aware of the dieselisation of private cars.\textsuperscript{271} However, a change in fuel emission norms, as stringent as the requirement for buses to adopt CNG, would have been hard to enforce. As noted by Melnick, decisions that impose high standards on a number of actors are difficult to implement, as the executive lacks the resources—technical, political and administrative—to enforce them.\textsuperscript{272} The government’s failure to implement emission norms for vehicles is telling in this regard. According to Narain and Bell the government lacked adequate infrastructure to implement emission norms.\textsuperscript{273} This was even noted by the Court, in its order dated 5 April 2002. Thus, in relation to personal vehicles, the Court took softer measures that were easier to enforce, such as directing the use of a catalytic converter and adoption of unleaded petrol. Requiring a further change in technology by personal vehicles may have been unfeasible for the government to enforce.

5.3\hspace{1em}Courts Act as Shields for Other Willing Actors

As noted by Rosenberg, all environmental decisions are political,\textsuperscript{274} and where agencies execute changes in policies through the courts, they seek to avoid the brunt of political actions.\textsuperscript{275} In the CNG case, in relation to the adoption of CNG by buses, Rosenberg’s argument is evident in at least two ways.

First, the nature of judicial intervention sought by the government arguably evidences the government’s interest in passing the buck to the Court. The government sought judicial intervention for making executive decisions that disgruntled corporate groups that it was reliant upon. For instance, as noted in

\textsuperscript{268} ibid.
\textsuperscript{269} The Tribune (n 243).
\textsuperscript{270} ibid.
\textsuperscript{271} \textit{MC Mehta v Union of India}, WP(C) 13029/1985 (Supreme Court of India), order dated 16 April 1999.
\textsuperscript{273} Narain and Bell (n 55) 5.
\textsuperscript{274} Rosenberg (n 8) 283.
\textsuperscript{275} ibid 284.
the order dated 5 April 2002, in the early stages of the proceedings, the
government stated that there was adequate CNG to undertake a change in fuel
for public transport in Delhi. However, in 2002, when the government had to
reallocate the CNG from the industrial sector to transport needs, it sought
judicial intervention to decide the issue, instead of making arrangements
independently.

Second, there were incentives for the government to implement the courts’
decisions, especially without being seen as a forerunner of change. By
distancing itself from the decision it relegated its obligation to provide
incentives and compensation to affected parties. Moreover, the executive was
expected to earn a windfall from the conversion of the diesel buses to CNG. As
noted by Dursbeck, Erlandsson, and Weaver the combined tax levied by the
central and the state government was approximately Rs 300,000 per bus.276 The
central government charged an excise tax of 16% on the CNG chassis, while the
Delhi government charged sales tax of 8% on both the chassis and the body.
The EPCA had recommended the exemption of buses from the levy of sales tax
by the respective governments.277 However, such financial incentives were not
provided to bus operators.278 In fact, as mentioned earlier, the government had
stated that it did not have the capacity to extend financial support to bus
operators for the conversion.279 Thus, it may be inferred that the government
had an added incentive to ensure the conversion of private buses to CNG.

Furthermore, the government was probably aware of political stasis and the
bureaucratic logjam within which it operated and provided a cover for it to
make tough decisions.280 According to Narain and Bell the government in Delhi
wanted to address the problem of air pollution, but did not have the political
will to do so.281 In support of this argument, she highlights the fact that the
government was the first to recommend the use of CNG in public transport. In
fact, the Oil and Natural Gas Corporation of India had already experimented
with CNG in its own vehicles.282 Another public sector undertaking, BPC had
also developed special cylinders for storing CNG for vehicular use.283

276 Frank Dursbeck, Lennart Erlandsson and Christopher Weaver, ‘Status of Implementation of
CNG as a Fuel for Urban Buses in Delhi’ (CSE, 2001)
277 EPCA, ‘Report on the Urgent Need to Augment and Restructure the Delhi Bus Transport
System to Help Mitigate Air Pollution in the City’ (n 149) 20.
278 BBC (n 154).
279 United Nations Environment Programme (n 235).
280 Narain and Bell (n 55) 2.
281 ibid.
282 ibid 7.
Accordingly, the government launched a pilot programme to test the viability of CNG buses without prodding from the Court.\textsuperscript{284} As noted by Mehta, public sector undertaking DTC, the public sector transport corporation, was the first to order CNG buses.\textsuperscript{285}

Government was even engaged in policy-making and planning the shift to CNG for buses and higher standards for vehicular fuel emissions. For instance, in 1997, noting the hazardous quality of Delhi’s air, the union government launched the White Paper on Pollution in Delhi, setting out a plan to improve environmental conditions in the city.\textsuperscript{286} The White Paper noted that government cars had already adopted CNG in Delhi, and that the government aimed to increase the number of outlets for distribution of the fuel in Delhi.\textsuperscript{287} According to CSE, it was the most important measure taken by the government at the time.\textsuperscript{288} Thus, while the Court required the conversion of buses to CNG, its direction was based on the government’s action plan.

Similarly, the decision to not adopt equally strict norms for personal vehicles was also arguably a political one. While the government was interested in addressing pollution by public transport vehicles, it did not wish to meddle with an industry which was vital to its economic growth. This is evident from the fact that it did not take measures to influence the automobile market to nudge consumers into purchasing environmentally friendly vehicles.

For instance, even as the Court ordered, and the government implemented the conversion of diesel buses to CNG, taxes on vehicles were reduced in 2002.\textsuperscript{289} The excise duty on cars was lowered from 32% to 24% in that year. Consequently, from 2002 to 2007, the industry grew at an annual rate of 14.1% and the investments by the industry amounted to almost Rs 18,000 crore (Rs 180 billion).\textsuperscript{290} Even as the economy shrank, the vehicular population of Delhi grew.\textsuperscript{291} Notably, the industry had contributed to 6% of the GDP in 2012.\textsuperscript{292} It


\textsuperscript{285} Mehta (n 151) 8.

\textsuperscript{286} Government of India Ministry of Environment, Forests and Climate Change (n 27).

\textsuperscript{287} ibid.

\textsuperscript{288} Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 5.

\textsuperscript{289} DNA India, ‘Debate over Taxing Diesel Cars more is over’ (DNA India, 18 February 2013) <http://www.dnaindia.com/analysis/comment-debate-over-taxing-diesel-cars-more-is-over-1801073> accessed 30 January 2015.

\textsuperscript{290} ibid.

\textsuperscript{291} Times of India, ‘Thumping Increase, Delhi adds 5L Vehicles in a Year’ (n 45)
may therefore be inferred that the government prioritised economic development interests over environmental sustainability.

Lack of government commitment to air quality concerns is also evident in its taxation policy for public transport and personal vehicles. According to the EPCA, taxes on buses are higher than on cars.\textsuperscript{293} A car costing around Rs 4 lakh (Rs 400,000) to Rs 6 lakh (Rs 600,000) pays onetime lifetime road tax in the range of Rs 16,000 – 24,000; whereas, a bus pays a tax in the range of Rs 15,915 – 18,715 every year.

Furthermore, government has taken steps to subsidise diesel in order to cap inflation linked to transport costs of essential commodities and food prices.\textsuperscript{294} The diesel subsidy also fuels the black market for oil and corruption.\textsuperscript{295} The government is thus doubly incentivised to continue the diesel subsidy. Since differential prices are argued to be unfeasible, cars that run on diesel also enjoy the benefit of the subsidy.\textsuperscript{296} This has fuelled market distortions and an increase in sales of diesel cars.\textsuperscript{297}

Earlier CNG had an advantage in terms of cost effectiveness: it was significantly cheaper than diesel, making it an attractive fuel choice.\textsuperscript{298} However, over the years, it has lost its edge to diesel, as the price differential has plummeted to...
about 7%. 299 According to news reports, 15% of the current consumption of diesel is in personal cars. 300 Noting the reducing gap, the EPCA has demanded that the price difference between diesel and CNG be maintained at 30-35% in favour of lower prices for CNG. 301

Moreover, the price difference between diesel and petrol is also skewed significantly in favour of the more harmful fuel, diesel. The price of diesel and petrol in Delhi between 2002 and 2014 are compared in Figure 4 below. This has altered consumer preference in favour of diesel cars. 302

**Figure 4: Price of Petrol and Diesel (2002-2014)**

![Figure 4: Price of Petrol and Diesel (2002-2014)](image)

Source: MyPetrolPrice.com 303

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300 Pearson and Katakey (n 297)

301 EPCA ‘Report on Priority Measures to Reduce Air Pollution and Protect Public Health’ (n 209) 8.


Thus, it may be inferred that while the government may have been willing to support cleaner fuels for buses, it has not shown equal commitment towards cleaner fuels in personal vehicles. The environmental conditions warranted improved planning, management, and large institutional change, but political support for environmental management was sporadic and mainly in reaction to a crisis.  

Here, it must be noted that a government’s position is influenced not only by economic interests, but also by the electorate. Thus, to secure the government’s support, CSOs should adopt political measures. However, as noted by Rosenberg, environmentalists act apolitically. Similarly, in the CNG case, the CSOs missed opportunities for ensuring politicisation of the issue. Not only was the discussion on air quality hijacked by a debate on fuel choice for buses, the discussion was expertised. Thus, no effort was made to include the masses, without whose support large-scale changes in policy were not implementable. This aspect is discussed in greater detail in the next sub-section.

5.4 Markets

Rosenberg argues that the market can act to implement court decisions. In relation to the adoption of CNG in buses, the implementation of the decision was assisted by market conditions. The government’s interest in adopting CNG stemmed from the energy crisis of the 1980s. Natural gas, a cheaper fuel which was being wasted at oil refineries was thus considered particularly suitable to cut the import dependency for oil. During the court proceedings it was noted that India’s domestic supply of CNG was sufficient to convert Delhi’s public transport to CNG vehicles. Thus, fuel supply was adequate to meet public transport needs.

Moreover, Indian companies, such as TATA and Ashok Leyland, were willing to develop the technology for developing safe CNG buses. Ashok Leyland, which had a lower market share than the industry leader TATA, saw the 1998 order as an opportunity to expand its share. Indigenous technology had also

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304 Indian Express, ‘India Loses $80 Bn due to Pollution: World Bank’ Indian Express (9 October 1998).
305 Rosenberg (n 8).
306 Mathur (n 179) 20; Rajamani (n 118) 304.
been developed for safe storage of CNG for vehicular use. Moreover, the government had committed itself to the supply of natural gas in the city, albeit after some intervention from the Court, as discussed in sub-section 5.3.

In relation to personal vehicles, requiring the use of CNG in cars or a significantly higher emissions standard would have been unenforceable earlier, not only for the lack of technical, administrative and financial resources, but also due to the non-availability of adequate consumer options. Over the years, since the implementation of the Court’s decision on 28 July 1998, the market for CNG cars has expanded significantly. For instance, the largest indigenous automobile manufacturer, Maruti Udyog, now manufactures over four models for CNG-based engines. Indian Brand Equity Foundation has also noted the expected growth in the CNG market in India with the increase in access to CNG in other cities.

Even today, though the market share of CNG is expanding, its popularity is not commensurate with its environmental gains. Undoubtedly, the increasing attractiveness of diesel cars has much to do with this phenomenon. But blame also lies with the social movement. As noted earlier, the CSOs did not attempt to take the debate to the people. While organisations such as TERI supported ultra-low sulphur diesel, CSE preferred CNG; but the reasons for their choices were not communicated to the people adequately. Though lead activists in the Clean Air Movement, Anil Agarwal, and later Sunita Narain, were members of the expert committee for deciding the fuel choice, the processes adopted by them were not participatory. This undoubtedly affected the final recommendation of the committee, and limited the gains from the movement. Thus, as feared by David Kennedy, law replaced debates on economics and politics.

Consequently, public awareness about pollution and the impact of fuel choice has been low. This is evident in factors that influence commuter preference for

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309 Times of India, ‘Compressor for using Natural Gas’ (n 283) 14
312 Mathur (n 179).
313 Sharma (n 192).
314 Mathur (n 179).
315 Rajamani (n 118) 304.
transport in Delhi. As per the study, commuters are influenced by concerns of cost, convenience, comfort, timeliness, frequency etc.; concern for environmental effects was not indicated.

Furthermore, if media attention is taken as an indicator of public interest in an issue, pollution does not appear to be of great concern for the residents of Delhi. An examination of news reports on pollution and corruption in the city reveals that pollution secures significantly smaller print space. In order to conduct the research, news articles in the national daily newspaper, the Indian Express, for the years 2009-2014 were examined. Though the paper reports in English, it is very likely that similar content is carried in Hindi newspapers as well. The 2009-2014 period was chosen to evidence the recent trend in awareness and interest. The examination was conducted by using the search terms: ‘pollution’ and ‘Delhi’ in the first paragraph of the news report. In order to give perspective, the paper was also searched for ‘corruption’ and ‘Delhi’ within the first paragraph of the news report for the same period. Note that data for the year 2014 is only indicated till 14 September 2014.

Figure 5: Media Coverage of Pollution in Delhi (2009-2014)

![Graph showing media coverage of pollution and corruption in Delhi](image)


Examining Figure 5, it is apparent that at least in comparison with corruption, pollution does not attract as much media attention. This is despite the fact that

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317 ibid 64.
Delhi is considered one of the most polluted cities in the world by WHO. In the years 2010 and 2014, the reportage appears to have increased. In 2010, the increase in attention was on account of the Commonwealth Games that were hosted in the city. The rise in reportage in 2014 followed the international attention on pollution in Delhi, after the data held by the United States Embassy on pollution levels was revealed on Twitter.

In these circumstances, a law or direction from the Court requiring the adoption of CNG, or other commensurate burden to redress pollution would not have solved the problem by coercing choice. Without a change in price of diesel, and availability of adequate consumer options, imposing a shift to cleaner fuels is a bitter pill for the public, who, as evident from the survey, give greater preference to cost over environmental concerns.

In 2014, the Court has evidenced a renewed vigour in attending to the issue of vehicular pollution. It has taken note of international news reports and the EPCA 2014 report blaming dieselisation for air pollution. Here, it is pertinent to note that the judicial interest in the matter has come close upon the heels of investments by Indian companies in shale gas ventures in the US. It is likely, that with the support of key market players, such as automobile manufacturers and fuel suppliers, the civil society organisations may find the Court to be in a position to take bolder decisions.

5.5 Impact of Extrinsic Factors

From the above discussion, it is clear that there are a number of factors that restricted the Court from taking strict action against personal vehicle owners. These factors, such as market preferences, incentive structures, and the availability of alternative options were not addressed by the CSOs in the Clean Air movement. In fact, these CSOs acted in a manner to exclude large segments of the population by restricting the debate to experts, and not recognising the public as citizens with political power and consumers with market significance.

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320 ibid.

321 EPCA ‘Report on Priority Measures to Reduce Air Pollution and Protect Public Health’ (n 209)

In order to have a lasting and significant impact on the quality of air, and address the drawbacks of judicialisation – fractionalisation, expertisation, and fragmentation of awards – CSOs should endeavour to increase the scope of participation and awareness, collaborate with other actors to increase incentives and improve the enforcement of costs.

VI. CONCLUSION

This Article has discussed the CNG case with a view to expanding the role of the CSOs and increasing their impact. Since, like the law and development movement, its brainchild – judicialisation of social rights – appears to be here to stay, it is vital that CSOs take note of the limitations of this strategy to overcome Kennedy’s criticisms of the movement. Thus, by expanding participation, increasing public awareness, engaging with the market, developing costs and incentives to nudge participants, CSOs would have greater impact and develop effective solutions. In light of the recent change in market scenario, like the investments by the Reliance Group in shale gas reserves in the United States of America, it is likely that CSOs would be able to achieve greater gains through this round of litigation.
BIBLIOGRAPHY

BOOKS
Davis D, Democracy and Deliberation: Transformation and the South African Legal Order (Juta & Co 1999)
Dworkin R, Taking Rights Seriously (Duckworth 1977)
Garth BG, ‘Rethinking the Processes and the Criteria for Success’ in Puymbroeck RVV (ed) Comprehensive Legal and Judicial Development: Towards an Agenda for a Just and Equitable Society in the 21st Century (World Bank 2001)
Koonan S, ‘Groundwater: Legal Aspects of the Plachimada Dispute’ in Cullet P and others (eds), Water Governance in Motion: Towards Socially and Environmentally Sustainable Water Laws (CUP 2010)
Lipsky M, Protest in City Politics: Rent Strikes, Housing and the Power of the Poor (Rand McNally and Co 1970)
McCann MW, Taking Reform Seriously: Perspectives on Public Interest Liberalism (Cornell University Press 1986)
Naseem M, Environmental Law in India (Kluwer Law International 2011)
Nozick R, Anarchy, State and Utopia (Basic Books 1974)

Sax JL, *Defending the Environment: A strategy for Citizen Action* (Knopf 1971)


World Health Organization, *Health Effects of Transport-Related Air Pollution* (Krzyzanowski M, Kuna-Dibbert B and Schneider J (eds), World Health Organization 2005)


**JOURNAL ARTICLES**


Baxi U, ‘Taking Suffering Seriously: Social Action Litigation in the Supreme Court of India’ (1985) 4 Third World Legal Studies 107

Bell RG and others, ‘Logjam on Air Quality Reforms’ (2004) 46(3) Environment 22

Bell RG, ‘Cleaner Fuels for Delhi and Basel’ (2005) 47(6) Environment 42

Bhagwati PN, ‘Judicial Activism and Public Interest Litigation’ (1985) 23 Columbia Journal of Transnational Law 561


—— ‘Role of the Indian Supreme Court in Shaping Technology Development’ (2014) 19(1) Science, Technology and Society 57


Faure MG, and Raja AV, ‘Effectiveness of Environmental Public Interest Litigation in India: Determining the Key Variables’ (2010) 21(2) Fordham Environmental Law Review 239


—— ‘Legal Culture and Social Development’ (1969) 4(1) Law and Society Review 29


Kumar N and Foster AD, ‘Have CNG Regulations in Delhi Done Their Job?’ (2007) 42(51) Economic and Political Weekly 48

<http://pa.oxfordjournals.org/content/44/3/283.full.pdf> accessed 9 September 2014
Tiwari G, ‘Urban Transport Priorities: Meeting the Challenge of Socio-economic Diversity in Cities, a Case Study of Delhi, India’ (2002) 19(2) Cities 95

CASES
_Aruna Rodrigues v Union of India and Others_ (2012) AIR SCW 3340 (Supreme Court of India)
_G Sundarrajan v Union of India and Others_ (2013) 6 SCC 620 (Supreme Court of India)
_MC Mehta v Union of India_, WP(C) 13029/1985 (Supreme Court of India)
—— order dated 14 November 1990
—— order dated 14 March 1991
—— order dated 24 October 1994
—— order dated 26 April 1996
—— order dated 28 July 1998
—— order dated 27 January 2001
—— order dated 26 March 2001
—— order dated 4 April 2001
—— order dated 5 April 2002
—— order dated 2 November 2007

STATUTES
Advocates Act 1961
The Environment (Protection) Act 1986

COMMAND PAPERS AND LAW COMMISSION REPORTS

WEBSITES AND OTHER SOURCES
<www.wilsoncenter.org/sites/default/files/badami.doc> accessed 9 September 2014
BBC News, ‘No Respite for Delhi Commuters’ (_BBC News_, 10 April 2002)
Bhargava TD, ‘Lok Sabha Debate Delhi Control of Building Operations Act, Lok Sabha Debates 1836-50, 1836’ (Lok Sabha Secretariat, New Delhi, 7–9 December 1955)


— ‘Donors of the Centre for Science and Environment for the year 2000-01’ (*Centre for Science and Environment*, 2001)  

— ‘Living on Borrowed Time’ (CSE, 2001)  
[http://www.downtoearth.org.in/node/16122> accessed 12 September 2014

— ‘Donors of the Centre for Science and Environment for the year 2001-02’ (*Centre for Science and Environment*, 2002)  


Central Pollution Control Board, ‘Status of the Vehicular Pollution Control Programme in India’ (*Central Pollution Control Board Programme Objective Series, Probes/136/2010*, 2010)  
[www.cpcb.nic.in/upload/NewItems/NewItem_157_VPC_REPORT.pdf> accessed 9 September 2014

— ‘Urban Pollution Control Division: Overview of the Transport Sector in India’ (*CPCB*, 2005)  
[http://www.cpcb.nic.in/divisionsofheadoffice/upcd/Profiles.pdf> accessed 13 January 2015

Central Road Research Institute, ‘Effect of Environmental Pollution due to Road Traffic on Health of Delhi Traffic Policemen’ (New Delhi, Environment and Road Traffic Safety Division: Central Road Research Institute 1991)


— ‘CNG Car Sales Drop as Fuel becomes costlier’ (*Economic Times*, 13 January 2014)  

— ‘CNG Losing Race to Cheaper Diesel Cars’ (*Economic Times*, 22 March 2012)  

De AK, ‘Development of CNG Infrastructure in India with Special Reference to National Capital Territory of Delhi’ (Indraprastha Gas Ltd 2005)
DNA India, ‘Debate over Taxing Diesel Cars more is over’ (DNA India, 18 February 2013) <http://www.dnaindia.com/analysis/comment-debate-over-taxing-diesel-cars-more-is-over-1801073> accessed 30 January 2015


—— ‘Restriction on the plying of diesel-driven (private) vehicles in the NCR’ (EPCA 1999).


‘Historical Petrol Prices in New Delhi’ (MyPetrolPrice) <http://www.mypetrolprice.com/2/Petrol-price-in-Delhi> accessed 9 September 2014


Indian Express, ‘India Loses $80 bn due to Pollution: World Bank’ Indian Express (9 October 1998)


Kalra H, ‘Public Engagement with the Legislative Process’ (Background Note for the Conference on Effective Legislatures, New Delhi, PRS 2011)


Narain S, ‘Paying for Diesel in Subsidy and Health’ (Times of India, 21 January 2011)  

Narain U and Bell RG, ‘Who Changed Delhi’s Air? The Roles of the Court and the Executive in Environmental Decision-making’ (Resources for the Future, Discussion Paper 05-48, 2005)

Padhy S, ‘Greening Law: A Socio-Legal Analysis of Environmental Human Rights in India’ (Dissertation presented to the faculty of the graduate school, University of Southern California, 2008)  
<http://digitallibrary.usc.edu/cdm/ref/collection/p15799coll127/id/49274> accessed 12 September 2014

Pandey P, ‘CNG to lose edge to diesel after hike’ (Times of India, 21 August 2013)  


Pearson NO and Katakey R, ‘India’s Diesel Cars are Proving Lethal’ (Bloomberg Business, 6 March 2014)  


—— ‘National Auto Fuel Policy Announced’ (PIB, 6 October 2003)  


Rajalakshmi TK, ‘The CNG Conundrum’ (Frontline, September 2001)  

Ramachandran R, ‘The Driving Policy’ (Frontline, 2002)  

RITES/ORG, ‘Household Travel Surveys in Delhi, Final Report, New Delhi and Baroda’ (Rail India Technical and Economic Services Ltd, Operations Research Group 1994)

Robinson N, ‘In Public Interest’ (Indian Express, 5 May 2014)  


Times of India, ‘Compressor for using Natural Gas’ Times of India (25 August 1991)


World Health Organization ‘Guidelines for Air Quality’ (2000) WHO/SDE/OEH/00.02


—— ‘About the World Bank in Justice Reform’ (The World Bank: Law and Justice Institutions, 9 March 2012)
## Appendix I - Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
</table>
| 1970-1980  | Industrialisation, urbanisation, sharp rise in pollution levels. (Bowender; Atiqur Rahman and others). No vehicular emission norms in place.  
<p>| 1981       | Air Act introduced.                                                                                                                                 |
| 1985       | MC Mehta files PIL to enforce Air Act, 1981.                                                                                           |
| 1986       | Environment Act is introduced. Supreme Court (SC) asks government to file a response to PIL.                                            |
| 1989       | Idle emission standards become effective. Mass emission norms not in place.                                                          |
|            | Government makes a public statement of its plan to phase out leaded petrol.                                                            |
| 5 February 1990 | Mass and in-use emission norms prescribed under Environment Act, to address tailpipe emissions.                                      |
| 14 November 1990 | The SC notes that buses, trucks and defence vehicles were main polluters; asks government to inform SC of action taken against violating vehicles. |
| 1991       | NEERI manufactures catalytic converter to reduce emissions. SC asks government to test the device.                                       |
| 14 March 1991 | Supreme Court allows the SIAM to join the proceedings as interveners.                                                                 |
| 25 August 1991 | Compressors for storage of CNG ready. ONGC and GAIL make public plans to adopt CNG as vehicular fuel.                                  |
| November 1991 | Saikia Committee recommends phasing out leaded petrol. This was opposed by the government before the Committee, contrary to its statement in 1989. |
| 21 October 1994 | Court requires that only those cars that are fitted with catalytic converters be registered.                                            |
| 1995       | Mandatory installation of catalytic converters in Delhi, Mumbai, Chennai and Kolkata.                                                 |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>Introduction of unleaded petrol and low sulphur diesel in Delhi;</td>
</tr>
<tr>
<td></td>
<td>emission norms revised. CSE releases report on vehicular pollution in</td>
</tr>
<tr>
<td></td>
<td>Delhi titled ‘Slow Murder’. Soon thereafter Court issues <em>suo moto</em></td>
</tr>
<tr>
<td></td>
<td>notice to government to submit action plan on vehicular air problem</td>
</tr>
<tr>
<td></td>
<td>in Delhi.</td>
</tr>
<tr>
<td>August 1997</td>
<td>Government of India releases the White Paper on Pollution in</td>
</tr>
<tr>
<td></td>
<td>Delhi; reveals the aim to extend CNG beyond the pilot programme</td>
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<tr>
<td></td>
<td>to private vehicles. It provided the government time till 31</td>
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<tr>
<td></td>
<td>December 1998 for the extension of CNG use to private vehicles.</td>
</tr>
<tr>
<td>1998</td>
<td>Unleaded petrol made mandatory for petrol driven cars in Delhi and</td>
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<tr>
<td></td>
<td>45 other cities.</td>
</tr>
<tr>
<td>January 1998</td>
<td>Establishment of EPCA led by Bhure Lal, [ex-bureaucrat]</td>
</tr>
<tr>
<td></td>
<td>comprising Anil Agarwal [CSE]; Jagdish Khattar [Maruti Udyog]; and</td>
</tr>
<tr>
<td></td>
<td>Kiran Dhingra [Transport Commissioner, Delhi].</td>
</tr>
<tr>
<td>June 1998</td>
<td>EPCA presents its report providing a time-schedule for the</td>
</tr>
<tr>
<td></td>
<td>implementation of CNG by April 2001.</td>
</tr>
<tr>
<td>28 July 1998</td>
<td>The Supreme Court directs implementation of EPCA</td>
</tr>
<tr>
<td></td>
<td>recommendations – bus fleet to be converted to CNG by 31 March</td>
</tr>
<tr>
<td>1999</td>
<td>EPCA report recommends restrictions on plying diesel driven cars.</td>
</tr>
<tr>
<td>16 April 1999</td>
<td>Court seeks information from government on registration of</td>
</tr>
<tr>
<td></td>
<td>diesel cars.</td>
</tr>
<tr>
<td>1 February 2000</td>
<td>Nation-wide mandatory adoption of unleaded petrol.</td>
</tr>
<tr>
<td>2000</td>
<td>Mass emission norms, Bharat 2000 equivalent to Euro I standards</td>
</tr>
<tr>
<td></td>
<td>enforced nation-wide.</td>
</tr>
<tr>
<td></td>
<td>Emission norms for CNG vehicles notified.</td>
</tr>
<tr>
<td>March 2001</td>
<td>Strikes in Delhi over conversion to CNG.</td>
</tr>
<tr>
<td>26 March 2001</td>
<td>SC provides incentive to bus operators to place orders for CNG</td>
</tr>
<tr>
<td></td>
<td>buses by allowing them to ply diesel buses till September 2001.</td>
</tr>
<tr>
<td>27 April 2001</td>
<td>SC asks EPCA to consider alternatives to CNG.</td>
</tr>
<tr>
<td>July 2001</td>
<td>EPCA presents report on clean fuel. Rejects ultra-low diesel as an</td>
</tr>
<tr>
<td></td>
<td>alternative to CNG. Proposes LPG and propane.</td>
</tr>
<tr>
<td>29 July 2001</td>
<td>Diesel buses fitted with CNG kits, but do not meet safety norms.</td>
</tr>
<tr>
<td></td>
<td>Not allowed to ply.</td>
</tr>
<tr>
<td>5 August 2001</td>
<td>CNG bus catches fire. Four casualties reported.</td>
</tr>
<tr>
<td>6 August 2001</td>
<td>Protests over shortage of CNG and lack of incentives for buses to</td>
</tr>
<tr>
<td></td>
<td>convert.</td>
</tr>
<tr>
<td>17 August 2001</td>
<td>Government asks SC to extend deadline due to scarcity of</td>
</tr>
<tr>
<td></td>
<td>CNG.</td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
</tr>
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<td>------------------</td>
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</tr>
<tr>
<td>13 September 2001</td>
<td>Government sets up Mashelkar Committee to determine auto-fuel policy questioning use of CNG.</td>
</tr>
<tr>
<td>11 November 2001</td>
<td>CNG buses catches fire. Casualties are avoided.</td>
</tr>
<tr>
<td>28 December 2001</td>
<td>Mashelkar Committee releases an interim report recommending use of alternate technologies and emission norms to address vehicular pollution.</td>
</tr>
<tr>
<td>31 January 2002</td>
<td>Conversion deadline passes without compliance.</td>
</tr>
<tr>
<td>2002</td>
<td>India’s first auto-fuel policy drawn up on the Basis of Mashelkar Committee’s recommendations. In relation to Delhi, the policy recommended Euro III be applicable from 2005, and Euro IV from 2010.</td>
</tr>
<tr>
<td>28 February 2002</td>
<td>CNG prices go up by 8%, from 12.21/kg to 13.11/kg.</td>
</tr>
<tr>
<td>5 April 2002</td>
<td>Court rejects Mashelkar Committee’s recommendation on use of emission norms with no control over fuel choice as naïve. Court directs the government to allocate CNG for transportation instead of power companies. Court also imposes fine of INR 500 for buses plying in violation of 31 January deadline.</td>
</tr>
<tr>
<td>5 April 2002</td>
<td>7,000 diesel buses go off road as bus operators could not afford the fine and gave up their permits.</td>
</tr>
<tr>
<td>22 April 2002</td>
<td>CNG Fleet augmented by 1,000 buses</td>
</tr>
<tr>
<td>9 May 2002</td>
<td>Court does not change its ruling on violating buses.</td>
</tr>
<tr>
<td>1 December 2002</td>
<td>All buses in Delhi have adopted CNG.</td>
</tr>
<tr>
<td>January 2004</td>
<td>EPCA submits report on extending CNG to 7 other critically affected cities.</td>
</tr>
<tr>
<td>17 December 2004</td>
<td>Heavy vehicles violating emission norms have been entering Delhi. Court requires MCD and Traffic Police to respond on action taken.</td>
</tr>
<tr>
<td>2005 – 2013</td>
<td>Court is engaged in overseeing the supply of CNG in Delhi NCR. Court delves into road safety and seeks EPCA’s support for recommendations on outdoor advertising policy and use of seatbelts.</td>
</tr>
<tr>
<td>2006</td>
<td>CSE releases Delhi Story on the success of the Clean Air Movement.</td>
</tr>
<tr>
<td>2007</td>
<td>EPCA submits report on dieselisation of vehicles.</td>
</tr>
<tr>
<td>2010</td>
<td>Percentage of diesel cars rose to 30% from 4% in 2000.</td>
</tr>
<tr>
<td>24 June 2010</td>
<td>Reliance spends $1.36 Billion on shale gas stake</td>
</tr>
<tr>
<td>2013</td>
<td>Reliance intends to invest $5.1bn in US Shale gas assets.</td>
</tr>
</tbody>
</table>
10 February 2014  Court directs government to respond to EPCA Report on Priority Measures to Reduce Air Pollution.

16 February 2014  Arvind Kejriwal, activist politician against corruption alleges links between Narendra Modi (subsequently elected as Prime Minister of India) and a natural gas company in India, Adani.\textsuperscript{xxiii}

15 August 2014  Adani group is reported to be bidding to provide natural gas to 14 cities in India.\textsuperscript{xxiii}

\textsuperscript{i} Iyer (n 58) 34.
\textsuperscript{ii} Narain and Bell (n 55) 3.
\textsuperscript{iii} Central Pollution Control Board (n 91) 35.
\textsuperscript{iv} Narain and Bell (n 55).
\textsuperscript{v} Centre for Science and Environment, ‘The Leapfrog Factor’ (n 36) 3.
\textsuperscript{vi} MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 14 November 1990 [3].
\textsuperscript{vii} ibid [5].
\textsuperscript{viii} Iyer (n 58) 34.
\textsuperscript{ix} WHO and UNEP (n 28) 30.
\textsuperscript{x} MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 14 March 1991 [10].
\textsuperscript{xi} ibid.
\textsuperscript{xii} Times of India, ‘Compressor for using Natural Gas’ (n 283) 14.
\textsuperscript{xiii} Central Pollution Control Board, ‘Urban Pollution Control Division: Overview of the Transport Sector in India’ (CPCB, 2005) 9
\textsuperscript{xiv} Narain and Bell (n 55) 6.
\textsuperscript{xv} Central Pollution Control Board (n 91) 35.
\textsuperscript{xvi} Ashwani Gumber, ‘Challenges in Development of CNG Infrastructure - India’s Experience’ (2008) 19th World Petroleum Congress, 29 June-3 July, Madrid, Spain
\textsuperscript{xvii} Government of India Ministry of Environment, Forests and Climate Change (n 27) 7.
\textsuperscript{xviii} Times of India, ‘Four injured as CNG bus catches fire in Delhi’ (Times of India, 5 August 2001)
\textsuperscript{xix} Rajalakshmi (n 241).
\textsuperscript{x} Kathuria (n 68) 411.
\textsuperscript{x} Kathuria (n 68) 412.
\textsuperscript{xx} The Hindu (n 165).
\textsuperscript{xxii} Naseem (n 99) 173.
\textsuperscript{xxiii} Kathuria (n 68) 412.
\textsuperscript{xxiv} ibid.
\textsuperscript{xxv} The Tribune (n 243).
\textsuperscript{xxvi} Kathuria (n 68) 412.
\textsuperscript{xxvii} Kathuria (n 68).
xxx MC Mehta v Union of India, WP(C) 13029/1985 (Supreme Court of India), order dated 13 August 2008.

xxxii Harris (n 70).
