

Governing Technology

The City in the Age of Environmental Crisis

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A different spectre haunts the contemporary city. This is not the fear of multitudes protesting against the bourgeois order. Rather, the uncertain effects of materials that sustain the modern world have come to haunt it today, in the form of particles and emissions. "Earlier concerns with pollution that was visible and degradable", the Ministry of Environment and Forests in India observed in 1992, "are giving way to new types of pollution with very small quantities of synthetic chemicals that are not so visible and are injurious to health and damage the environment because of widespread use, persistence and toxicity. Reducing the hazards from toxic chemicals is now a primary public concern... Despite uncertainties and insufficient knowledge, political and scientific decisions concerning environmental change will be necessary".

The distribution of environmental ills has a complex genealogy. The city has always been concerned about the 'environment' but perhaps it is only in the last decade or so that it has come to face an environmental crisis of sorts. This is the political and economic crisis of material flows and resource allocation, but also critically the crisis of managing technological transformations. If in the first half of this century the physical relocation of polluting materials provided an adequate frame for governance, such relocations can only provide partial solutions today. Urban futures must now be built on our capacities to deal with uncertainties, technical and otherwise, and evolving frames for governance that have, at best, unstable truths to guide them.

This essay concerns itself with one such narrative of technical uncertainties and contemporary urban governance, drawing upon the Compressed Natural Gas (CNG) crisis in Delhi. Very briefly, the facts of the case are this: The Supreme Court of India over the last few years has passed a number of orders to combat air pollution, one of which is that entire fleets of public transport in Delhi – autos, taxis and buses – be converted to CNG, which is argued to be a "clean fuel", or if not that a "more environmentally acceptable" fuel than petrol and diesel. This decision has been extremely controversial, and this essay seeks to open up questions that emerge from the process of effecting this transformation.

Law/Constitution/Technology and the Environment

Scientific/technological environmentalism in Delhi has many originary moments, depending on who is making the argument and to what purpose. For this essay an important originary moment can be located in the Supreme Court Judgment of 1986, relating to the leak of oleum gas from a unit of the Sriram Foods and Fertiliser Industry in Delhi. In his judgment (M.C. Mehta v. Union of India and Sriram Foods and Fertilisers Case, 1986 (2) SCC 175) Justice Bhagwati observed: "We would also suggest to the Government of India that since

cases involving issues of environmental pollution, ecological destruction and conflicts over national resources are increasingly coming up for adjudication and these cases involve assessment and evolution of scientific and technical data, it might be desirable to set up Environmental Courts on the regional basis with one professional *judge and two experts* drawn from the Ecological Sciences Research Group keeping in view the nature of the case and the expertise required for its adjudication" (emphasis mine).

Two important developments followed from this line of reasoning. The first that strikes even a casual observer of the contemporary city is that notwithstanding periodic legislations and resolutions of the executive branch of the government, there has been a shift in responsibility for environmental improvement from the executive to the judiciary, a move that has been increasingly consolidated over time. Second, and this is something that deserves special merit, is that questions of environmental justice and equity have been brought within the ambit of constitutionally granted rights. This is based on a significant rereading of the Constitution and judgments of courts that have argued that the right to a clean environment is a fundamental right. This Constitutional basis of the Court's intervention is also laid out in judgments related to the CNG case, as for instance in the opening remarks of the order of April 5, 2002 that states that "Articles 39 (e), 47 and 48A by themselves and collectively cast a duty on the State to secure the health of the people, improve public health and protect and improve the environment. It was by reason of the lack of effort on the part of the enforcement agencies, notwithstanding adequate laws being in place, that this court has been concerned with the state of air pollution in the capital of this country".

The second important implication of the newly acquired centrality of the courts is the reliance on independent experts to serve as guides in matters of scientific understanding and technological options. It is not surprising then that the assertion of expertise has been an important component of the rhetorical strategy of each of the major players in the CNG controversy. The Mashlekar committee, set up by the Government of India in August 2001 to suggest a fuel policy for the country, comprised, in its own words, "eminent" experts in the fields of environment, energy, vehicular technology, public finance, management, and representatives of key Ministries/Organisations including Environment and Forests, central Pollution Control Board, Non-conventional Energy Sources, etc., though even this seems to be have been inadequate. As the Supreme Court, in the order just cited, observed: "The composition of the Mashlekar Committee was such that none of its members was either a doctor, or an expert, in public health. The said committee submitted its report which does not show any serious concern with the health of the people". The Centre for Science and Environment (CSE), a public interest organisation based in Delhi, not finding the necessary technical expertise in India, set up an international committee of technical experts to undertake an evaluative study of CNG and diesel in order to arrive at an "independent evaluation", while the Tata Energy Research Institute (TERI) asserts, on the basis of its long experience in monitoring pollution and other related activities, it possesses the necessary expertise to develop a methodological framework for assessing the extent of pollution and coordinate data compilation on the subject.

The task of these experts is clearly laid down too – to provide scientifically accurate data that can serve to shape policy. The Mashlekar Committee thus observes that "evi-

dence based analysis backed up by scientifically validated data, especially under Indian conditions, should be the cornerstone of any sound policy". In a signed editorial in *Down to Earth* (30 April 2001), Anil Agarwal writes that "As the management of the process of conversion [of public transport to CNG] required technical competence on auto emissions, technology and health effects and as generalist bureaucrats have no understanding of these matters, a technical team should have been put in place to advise the government. In the absence of this advice, the Delhi government has remained consistently confused and has allowed every vested interest to take it for a ride". TERI, one of the organisations that is implied in Agarwal's list of "vested interests", makes a similar claim while opposing the conversion of the entire public transport to CNG: "The prevailing public perception needs to be corrected. Much of the public perception is based only on 'visible forms' of pollution. The relationship between visibility and pollution is a very complex phenomenon requiring further scientific investigation. The relationship between air quality and vehicular pollution is far too complex to be influenced by simple measures; what we require are more informed probing of the issue (Press Note, 13 August 2001). And in yet another report it informs us that "in the absence of a scientific approach to the establishment of a reliable database [on vehicular pollution] it would be difficult to evaluate the impact of different measures in combating pollution or prioritise them for purposes of implementation".

But what if the experts fail to develop a consensus on their findings, as indeed they do in the case of CNG? The fault then lies not with science, but with partial, selective, deliberately misleading or genuinely ill-informed knowledge of it. Accusations on this count have flown fast and furious between the different experts, and studies from around the globe have been presented to the public and the courts, explicating this 'misleading' presentation of data. Thus, for instance, CSE contests TERI's use of data from the Expert Reference Group Study in Australia conducted in 1998 with a more recent study undertaken by the Australian Government's Council for Scientific and Industrial Research Organisation. Similarly TERI cites the approach taken by the European Programme on Emission, Fuels and Engine Technologies as providing a more comprehensive framework than that on offer by the Bhure Lal Committee and the Courts; or in another context, World Bank studies on Mexico city and Santiago on the inadequacy of what it calls this "technical fix" to reduce air pollution.

In brief, despite their many differences, a 'scientific' understanding of clean technologies is the only available framework within which the question of environmental improvement gets articulated in this instance. And this has interesting social implications. One of the important things that Frank Fischer, following Foucault, argues in his book *Citizens, Experts and the Environment*, is that "the focus on the political position of the technocrat in the decision structure misses the more fundamental power of professional discourses... the most significant power of the professional is lodged in basic conceptual categories of thought and language... Professional disciplines (in conjunction with the state) predefine the very worlds that they have made the object of their study" (2000, p. 24). This is something that, I suggest, very much describes the world of the CNG environmentalists, who act as advisors rather than decision-makers but whose vocabulary saturates almost every sort of opinion on the subject. If there are uncertainties, these are of science itself and can/must be solved scientifically.

Technological Choices/Scientific Uncertainty

The expert may well live with the uncertainty, but it is an entirely different kind of experience for those who bear the responsibility to govern, unaided as they are by unambiguous truth. At one particular moment in the issue, after the Courts had passed strong strictures against her government, the Delhi Chief Minister took her predicament to the public:

I do not want chaos on the streets. We are all for reducing pollution but it is this war between CNG and anti-CNG lobbies which has landed us in a kind of spot. We do not know which way to go... Retrofitting and conversion are still not known technology... People cannot be expected to spend money on a technology which is not known... There is still a debate going on about CNG and we as a responsible government want pollution to be eliminated. But we also have to answer to the people and the money that they are made to spend... I do not know what is the truth (*Down to Earth* April 30, 2001).

But this argument no longer cuts ice, and we are brought back once again to innovations in the legal mechanism to address issues of environmental good. As explained by the Supreme Court, the **precautionary principle** is a necessary component of ecologically sustainable development. And what it involves, among various other things, is the following:

>The State Government and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation.

>Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

It followed that the auto policy must, therefore:

- >> Focus upon measures to "anticipate, prevent and attack" the cause of environmental degradation in this field.
- >> In the absence of adequate information, lean in favour of environmental protection by refusing rather than permitting activities likely to be detrimental.
- >> Make informed recommendations which balance the need to protect the environment and reverse the large-scale degradation that has resulted over the years, priority being given to the environment over economic issues.¹

In each of these matters contemporary environmental initiatives, as largely undertaken by the courts and scientific bodies, are in marked contrast to the situation that obtained for the 50s and 60s. In fact, they are in contrast even to more recent concerns about the adverse impact of environmental decisions on the economy. But what needs to be appreciated is that this concern with the economy comes from very different vantage points – when the government speaks it is in the language of national progress: "In seeking a higher quality of life while developed countries need to focus on changing the composition of their processes and products, developing countries will need to obtain the benefits of economic growth". Others talk of "social responsibility": "There are costs involved to everyone that includes the Government, the fuel producer, the auto producer, and the user. One can have infinite desires but there are only finite resources. Therefore minimisation of social

cost was considered to be one of the key guiding principles" (Mashlekar Committee). In yet another vein when the PUDR opposes the court's decisions on the closing and shifting of factories, the concern is from the prospect of job loss and adverse economic and health impacts on the workers.

What the precautionary principle does is set a new stage for when and what kind of action can be undertaken in anticipation of future harms rather than merely as a reaction to a situation gone out of hand. But its social implications are far from clear – what we find particularly interesting about the CNG issue is that its proponents have sought to bury the nationalist myth that higher standards are the luxury of the developed world. In fact, CSE argues, it is precisely in a city like Delhi, where particulate pollutants kill on an average one person per hour, that there is an urgency that we leapfrog to the cleanest technology if we are serious about addressing issues of public health. The judgment is backed by the Supreme Court which used a 1992 World Bank study to suggest that the annual health cost of air pollution in the city could well be to the tune of Rs. 1,000 crores, out of the country's share of Rs. 5,550 crores. And this data itself is about a decade old! Issues of costs become secondary in this reasoning for, as the Bhure Lal Committee submitted before the Court, countervailing health costs of air pollution have to be linked to investment and price issues, and no estimation of these had been made by the Ministry of Environment, leaving the World Bank data as the only available set of figures of just how high these costs could be (*Report on Clean Fuels* July 2001). Given that Delhi is an air pollution hot spot (due to high levels of Respirable Particulate Matter of less than 10 micron size), this report argues, even more needs to be done than what has been put in place till date.

Citizens and their City

But the question remains – where does that leave us as citizens and residents of this city? Clearly all strategies for environmental improvement will be accompanied by the notion of public good. There are efforts to 'educate' the public too – the CSE's campaign on the right to clean air aims to not only lobby with the government but also to "raise public awareness about poor urban air quality and risks to public health". This is the empowering of civil society against "vested interests" (*The Smokescreen of Lies: Myths and Facts about CNG* 2001). Similarly, TERI has produced a number of info-sheets on the premise that "an informed citizenry is an effective citizenry".

There are two issues at stake here. First, the deployment of the category of the 'public' is simultaneous with the recognition of 'interest groups'. Thus when the Environment Pollution (Prevention and Control) Authority was asked by the Supreme Court in March 2001 to report as to which fuel could be regarded as a clean fuel (which does not cause pollution or is otherwise not injurious to health) the Court observed that "it shall be open to the interested parties to make their representation directly before Bhure Lal Committee in support of their pleas as to what can be regarded as a clean fuel...". Accordingly, the EPCA received representations from the following parties: Ministry of Petroleum and Natural Gas; Oil Companies; Society of Indian Automobile Manufacturers; Tata Engineering and Ashok Leyland companies; Delhi Transport Corporation; All India Motor Transport Congress; Indian Tourists Transporters Association; Delhi Contract Bus Association; Delhi Transport Cor-

poration; Private Bus Operators Welfare Association; Indian Association of Tour Operators; SHV Energy Pvt. Ltd.; and Delhi Petrol Dealers Association.

No public health interest group here! That apart, it remains an open question of democratic governance and environmental improvement as to what relationships are established between these recognised interests (or stakeholders, as they are often referred to) and the general public, in the interest of whose health the entire exercise is being undertaken.

Equally important, as has been clearly demonstrated in case after case, there isn't just one public out there. The closure of industrial units on account of pollution has severe effects on livelihoods and the health of many workers, just as slum relocation drives hardly benefit those who dwell in them. Is the CNG case another of those instances when the use of the term 'public' has been selective and biased against the poor? And this is where I have my reservations about adopting categories such as bourgeois environmentalism to understand all that is happening around us. The issue here might be slightly at tangent. This is how Dinesh Mohan puts it: "The questions [about CNG] are posed as if we are choosing between different flavours of ice-cream. There seems to be little concern over the decision-making process itself. The complexity of the technological, economic and social issues are completely ignored". It is dealing with this complexity, I suggest, that remains one of the more significant challenges of contemporary environmentalism, one that gives an added dimension to the concern with economic and social equity.

NOTES

1. It is in this context that the Court also made its famous observation that "if there is a short supply of an essential commodity, then the priority must be of public health, as opposed to the health of the balance sheet of a private company. To enable industries to cut their losses, or to make more profit at the cost of public health, is not a sign of good governance, and this is contrary to the constitutional mandate".

REFERENCES

1. Fischer, Frank *Citizens, Experts, and the Environment: The Politics of Local Knowledge* (Duke University Press, 2000, Durham, North Carolina).