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***Economic Efficiency of Public Interest Litigations (PIL):
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Economic Efficiency of Public Interest Litigations (PIL): Lessons from India

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Past interest in the phenomena of Public interest litigation has concentrated on a legal justification of PIL and on arguments based on “access to Justice” for the poor. There seems to be scant literature that looks at PIL from a Law and Economics perspective. This paper sets up a framework to analyze the economic efficiency of public Interest Litigation in the Indian context. We argue that PIL can be justified as an economically efficient choice of redressal if certain conditions are fulfilled. These are, insufficient incentive for private litigation, regulatory failures and the inability of class action to counter harm due to high transaction costs. Thus PIL is seen as an efficient method of bundling interests wherever there are failures of the kind mentioned. We delineate the kinds of economic activity that generate these specific conditions and analyze if PIL has been successful in such cases. We show that PILs filed in India do seem to stem from considerations of Economic efficiency, but there are instances where PIL may be used strategically to pull off private ends and open up a floodgate of litigation. We present only a basic direction of the research since this is still a part of on going research.

Keywords: Public Interest Litigations, Litigation Process, Environmental, Health, and Safety Law

JEL Classification: K32, K41

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Introduction

We analyze the feasibility and efficiency of legal instruments that facilitate in obtaining legal redress for suffering harm. In doing so, we focus on the efficacy of Public Interest Litigations (PILs) in resolving problems in the Indian context. Theoretically the legal alternatives that can be used to contain harmful activities vary from private bipolar litigation to class action to regulation. While there has been an economic analysis of bipolar litigation (Shavell, 2003) and class action (Silver, 2000), and regulation (Spulber, 1988), there seems to be scant literature that looks at PIL from a Law and Economics perspective.

Past interest in the phenomena of Public Interest Litigation has concentrated on a legal justification of PIL based on arguments of “access to Justice” for the underprivileged masses (Baxi, 1987; Desai and Muralidhar, 2000). This paper sets up a framework to analyze the economic efficiency of Public Interest Litigation in the Indian context. We make use of the literature on the bundling of special interests to argue that PIL can be justified as an economically efficient choice of redress if there is insufficient incentive for private litigation, inability of class action to counter harm due to high transaction costs, lack of substantive law on regulation of the harm and/ or pervasive regulatory failures. Thus PIL is seen as an efficient method of bundling interests wherever there are failures of the kind mentioned. Environmental harm is seen to generate these specific conditions and therefore we would expect that PIL would serve to circumvent the above problems and would succeed in bundling special interests in a cost-minimizing manner to bring legal injunctions or compensations for harm done³. However, in order to assess whether PILs are an efficient alternative, it must first be proved that the other forms of legal actions are either too expensive or that there is a lack of substantive law to correct the harmful activity or that there are failures in regulation that have been in place that make the PIL alternative more efficient. Secondly, it must also be assessed whether PIL would be misused as a strategy to further private ends and open up a floodgate of litigation. We present the first part of the research in this paper.

³ The data on PILs filed in India does suggest that this approach for redress has been increasingly used in cases of environmental problems; of the 700 cases of PILs collected as the part of this research project more than 50% are on environmental issues.

The paper is organized as follows. In the next section we develop the hypothesis that Public Interest Litigation, under certain conditions, could result in a cost-minimizing alternative to resolve environmental problems and suggest a methodology by which the economic efficiency of Public Interest Litigation can be deduced. This section also recounts the evolution of PILs in India. In Section III we present information in the Delhi Air-pollution case to show that class action was not pursued as means of redress and the regulatory mechanism failed, but PIL made a difference in controlling pollution in the city.

II

A) The Efficiency of Public Interest Litigation

When adequate statutes and laws are in place, judicial machinery is corruption-free and the victims are aware of their legal rights, justice can be efficiently imparted through conventional private litigations.⁴ Alternatively, legislative measures in the form of regulatory acts may be taken to check socially damaging activities (Spulber, 1988).

However, in the context of developing countries, private litigation does not seem to have been successful in protecting citizens from unwarranted actions of tort, particularly when negative externalities such as environmental pollution are present. One reason for this is that going to court may not even be a matter of choice to a large number of affected people who are unacquainted with their legal rights and, in the face of damages, simply do not have the means to file a case in the court⁵ (Desai and Muralidhar, 2000). Availing the services of formal Courts in the developing countries have a lot of hurdles such as illiteracy of the masses, hidden cost of geographical distance as only a few courts exist, adverse social and cultural norms that discriminate a section of the society and finally the corrupt courts.

4 In *Ram Baj Singh Vs Babulal* (AIR 1982 ALL 285), the plaintiff had accused the defendant of creating nuisance to him and his customers from using a brick-grinding machine. Here, since the tortfeasor and the victim were well identified and the nature of the harm well documented, private litigation would be the economically efficient solution in the absence of effective regulations.

5 In the case of *Bandhua Mukti Morcha Vs. Union of India* (AIR 1984 SC 802) the Supreme Court expressed its concern over the underprivileged masses who do not have access to justice for various reasons.

The problem of private litigation is magnified, when the number of victims and the total damages to the society are larger but the individual share of damage is not large enough to create incentives for private litigation. Under such conditions of rational disinterest (Schaefer, 2000; Ott and Schaefer, 1996) private litigation would be uneconomical for the victims to take up individually and, if taken, uneconomical to the society. Moreover, if the court verdict and the subsequent benefits were to be mixed goods i.e. consisting of both individual and social benefits, rational individuals would only under-invest in appropriating legal justice.

Secondly, even if there were a civil liability rule in place, the outcome would be inefficient if the tortfeasor has the opportunity of settling with a few potential litigants in return for continuing his polluting activity. This small portion of the victims could become a credible threat and appropriate due compensation out-of-court from the tortfeasor leaving the majority to their fate. Here only a part of the social cost is internalized by the tortfeasor by means of paying compensation to group A. This leaves the economy still in a sub-optimal equilibrium where the socially damaging activity is over-supplied. On the other hand the possibility of Public Interest Litigation i.e. any individual with sufficient interest can file the case, would increase the number of potential litigants beyond the number of victims. This will have a deterrence effect on the potential tortfeasors⁶.

The next possible alternative advised is regulating the economic activities of the agents such that they internalize these externalities. Regulation too is fraught with the danger of regulatory authority colluding with the potential injurers that would result in an equally harmful situation (Spulber, 1988). Regulation suffers a twofold danger of legislative authorities being “captured” by the powerful interest groups and/ or laxity in enforcing the laws enacted by the designated enforcing authorities. Lobby groups “capturing the authority” can be through exerting pressure at the time of legislation in order to dilute law so as to minimize the expected damages to their interests. This would misdirect the purpose of regulation. Further, regulation fails if the enforcing agency is not conferred with enough power to implement

⁶ Raja and Xavier (2005) “Efficiency and Strategic Behaviour: The case of Mass Torts” Working Paper, Dept. of Economics, University of Hyderabad.

what they are supposed to⁷, or when the enforcement mechanism is corrupt and the enforcing agent succumbs to issuing false certificates in exchange for bribes.

To appropriate social benefits class action⁸ is considered to be the alternative to unenforceable regulation with defective regulatory mechanism and to private litigation as the cost of litigation could be shared among the victims⁹ (Epstein, 2003; Schaefer, 2000; Silver, 2000). However, class action itself is fraught with a number of problems such as cost of collecting information about the victims and the damages and the cost of coordinating them all to achieve the collective interest. Coordination cost apart, there is also the hazard of free riders since the resulting judicial judgment is generally non-excludable (Bardhan, 2000). In other words, the transaction cost of coordinating class action is, at times, prohibitively high.

To summarize, when large sections of the population is divorced from the formal legal system private litigation is inadequate; on the other hand, when there is a strong institution of “influence” wielded by interest groups, regulation becomes ineffective; class action is prohibitively costly or simply not feasible due to transaction costs.

In the developing countries, sluggish law enforcement, the lack of substantive law, and a weak legal system perpetuated by large members of the population not having access to education created a demand for alternate dispute resolution mechanisms. Educating the masses is an effective but long-term solution to the problem. Providing legal aid is also not feasible for the reasons of sheer number of possible cases and also lack of information on the part of the underprivileged would still keep them out of any intended support¹⁰.

7 This can happen only with the collusion with the State. Typically in developing countries, pressures from the opposition parties or activists for some cause create conditions that compel the State to show some visible policy that would be in the interests of the society. However, this creates problems with interest groups who may have a significant influence over the people in power. The typical response is to enact weak legislations that leave large enough loopholes in order that the interest groups are not affected.

8 A class action suit in the U.S won a \$700 million settlement in Alabama environmental pollution case, where toxic industrial waste buried at the county landfill seeped into the groundwater. Another famous class action won against Pacific Gas and Electric for residents sickened by water contaminated with chromium 6. agent orpage 157.

⁹ Per-plaintiff cost of engaging in litigation decreases due to economies of scale from consolidation interest and cost (Che, 1996; Miller, 1988)

10 Ott and Schaefer (1996) come up with several recommendations to overcome some of these problems for Germany. However it is unlikely that those recommendations would be suitable for a country like India.

Any alternative that reduces the cost associated with the above problems would have to be considered as an efficient alternative. What is required is a way to bundle special interests of large groups of people in a cost-minimizing manner and at the same time reduce the costs of coordinating such interests considerably. To accommodate this some innovation in law would be required.

The legal fraternity put forth an alternative that seems to coincide with the model that serves this very purpose and goes by the name of Public Interest Litigation (PIL). PIL, as the very name suggests, is meant to shield the “public interest”. It is a lawsuit filed by a representative plaintiff or plaintiffs on behalf of the victims against tort feasons. According to Indian law, the definition of Public Interest has a very broad connotation. PIL is not defined in any statute or in any act. Innovative judges, who consider the interest of public at large, have interpreted Law to overcome the inadequacy of the formal court system and private litigation to solve conflicts at group level. Although, the main focus of such litigation is only "Public Interest" there are various other areas where a PIL can be filed e.g. violation of basic human rights of the poor, content or conduct of government policy or compel municipal authorities to perform a public duty. The proponents of PIL in the United States, state three theoretical justifications (Hershkoff): First, PIL can be an effective means of correcting for any legislative lacunas developed which dilute or exclude the interest of a group of the population. In doing so it resolves the public choice problem of the affected parties. Second, PIL may also be used whenever the law on the book is ineffectively enforced. Third, it extends the judicial mechanism to the underprivileged. Thus, the justification for PIL comes not from economic considerations of efficiency, rather from concerns regarding “access to justice”, issues pertaining to fundamental rights and those concerns pertaining to the legal “empowerment” of people.

It is a simple observation that “costs of going to court” or of litigation over a particular dispute or tort would depend, among other things, on the number of victims involved. When the nature of harm involves both a single victim and a single tort feason, private litigation would be used. Larger numbers of both victims as well as tort feasons contributing to harm makes private litigation more expensive compared to several victims filing a suit together and sharing the costs. Clearly, in the absence of significant transaction costs, there are economies of scale to combined litigation as opposed to individual litigation. When the

number of victims increases even further, coordinating among the victims becomes costly. At times it could prohibit any kind of action from being taken. Environmental conflicts, in most of the cases are of a nature where the people affected are wide spread and information required for coordination is very large and expensive to obtain. However, the totality of damage becomes significant due to large numbers being affected even though individually they suffer a small fraction of it. A method that demands no coordination among the victims solves the problem of rational apathy as any individual irrespective of his/her standing in the case can move the court (Tiwari, 2001).

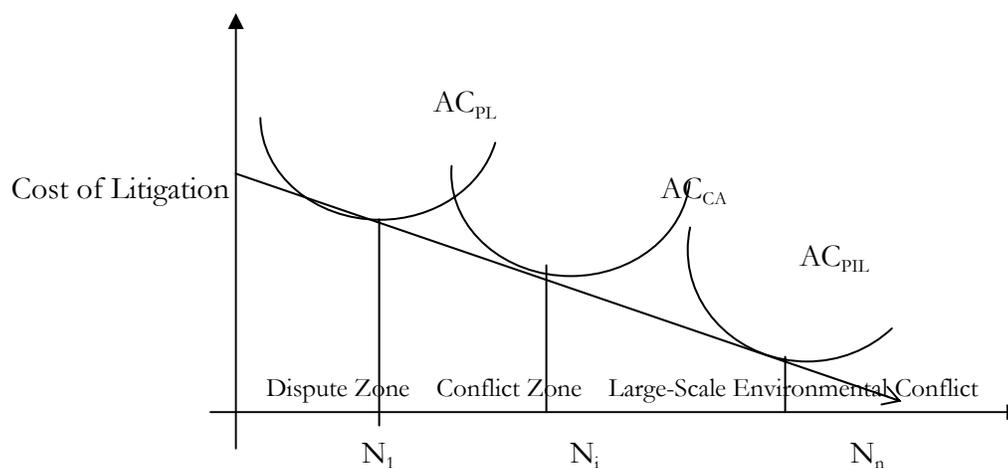


Diagram 1:

AC_{PL} = Average cost of private litigation; AC_{CA} = Average cost of class action;

AC_{PIL} = Average cost public interest litigation; N = No of Individuals involved (Victims as well as Tort Feasors)

The above diagram depicts the falling expected cost of litigation over alternatives as the number victims go up. It also indicates the zones and corresponding cost effective method of litigation. The case where there are few or a single victim and a few or single tort feator is designated as a “dispute zone”. In such cases, the nature of the harm, and the identity of the victims and injurers are well established. Larger numbers being involved is designated as a “conflict”. Very large numbers being affected by a large number of tort feasors corresponds to environmental damages. This however is not confined to such harm. Any policy or legislation that is not in the public interest would also fall into this category.

We hypothesize that the cost of litigation in the case of large-scale environmental conflicts is lower if PIL is utilized in contrast to other alternatives in the presence of regulatory failures.

B) The nature of PIL in India:

The procedure for judicial review of administrative actions in the UK was revolutionized when *locus standi* was relaxed and courts sought only “sufficient interest” of the litigant as against “person aggrieved” (Cane, 1981)¹¹. By relaxing *locus standi* it brought grievances of the victimized to the purview of courts and made the judicial process more participatory, expeditious and polycentric. In India, where the government enforcement machinery is said to be lax, court involvement is indispensable in ensuring due action is taken. One of the outstanding legal innovations in India in the nineteen seventies is the Public Interest Litigation (PIL). The Supreme Court (SC) thus opened its doors to the underprivileged by empowering any concerned citizen to voice in the court on behalf of them (Cunningham, 1987).

The Supreme Court of India has clearly delineated the role of court and the purpose of public interest litigation¹²:

In Public Interest Litigation, unlike traditional dispute resolution mechanisms, there is no determination or adjudication of individual rights. While in the ordinary conventional adjudications the party structure is merely bi-polar and the controversy pertains to the determination of the legal consequences of past events and the remedy is essentially linked to and limited by the logic of the array of the parties, in a public interest action the proceedings cut across and transcend these traditional forms and inhibitions.

The period after 1970s witnessed, due to these legal developments, a rapid growth of PIL on various issues such as protecting fundamental rights, environment and corruption and on several large-scale government projects. In the early years of judicial activism SC assumed

11 R. V. Inspectorate of Pollution, ex parte Green peace, Ltd. (No. 2) [1994] 4 All E R 329 (High Court, by Justice Otton) has granted standing to the environmental group Greenpeace in the Thorp case to challenge a proposed license for a nuclear power plant.

12 Sheela Barse v. Union of India, 1988 4 SCC 226, 234, 1988 AIR (SC) 2211, 2214.

the role of bulwark against state repression in protecting fundamental and human rights of the citizens¹³.

The 1990's witnessed SC responding to people's complaints and inaction of government agencies such as forest bureaucracies, pollution control boards and state agencies. Court activism was seen in the field of the environment for the first time in *Rural Litigation and Entitlement Kendra case*¹⁴ where the Supreme Court made use of the powers it is conferred by Article 32 of the constitution (Pani, 2002). SC observed that "if enactment of law results in a clean environment India would be the least polluted as there are at least 200 and odd Central and State statutes enacted." This clearly points to the failure of the regulatory mechanism at the level of implementation.

III

Environmental Regulation and Environmental Legislation in India

It has been argued that harm will go uncompensated if either there is a failure of the substantive law regulating such activity or if regulation is rendered ineffective due to capture and corruption. Environmental conflicts like any other disputes could be disposed by simple private litigation where the aggrieved party sues the injurer and compensation or injunction is imposed on the tortfeasor under section 91 of the Indian Civil Procedure Code, if convicted. Ironically, India, following the legal tradition of UK, has a long history of government environmental activism. Indian Penal Code of 1860 on defilement of water, The Factories Act of 1948 required all factories to make effective arrangements for waste disposal and The Indian Forest Act of 1927 granted the government uncontested rights over natural resources and authorized state governments to oversee the protection of the forests. The same tradition was followed after the independence.

13 In *Francis Coralie Mullin v. The Administrator, Union Territory of Delhi* AIR 1981 SC 746. In *Subhash Kumar v. State of Bihar* (AIR 1991 SC 420), the Court observed that: "The right to live is a fundamental right under Article 21 of the Constitution, and it includes the right of enjoyment of pollution-free water and air for full enjoyment of life. If anything endangers or impairs that quality of life in derogation of laws, a citizen has the right to have recourse to Article 32 of the Constitution..."

14 In the limestone quarries in the Mussorie Hills case (AIR 1985 SC 652), the Supreme Court ordered to close down the units, as they were hazardous to environment.

The Stockholm Conference in 1972 deeply influenced the future policies on environment and environmental protection. The focus had been mainly on water and air pollution and also to a whole range of other problems such as safeguarding public health, forests and wild life. Constitutional measures include the 42nd amendment of 1977 that allowed the State to protect and improve the environment. Directive principles of the State and fundamental duties of the citizens include environmental protection. The Ministry of Environment and Forests (MoEF) was created in 1985.

Environmental statutes and laws are the ways in which these constitutional provisions are implemented. In the fallout of the Bhopal gas tragedy stringent environment laws were passed. In 1986 the Parliament passed the Environment Protection Act (1986) an ‘umbrella’ legislation providing guidance to all environmental problems. Environmental Action Plan of MoEF (1993) attempted to integrate environmental considerations into developmental strategies.

In the event of damage citizens have civil remedies such as Common tort law action against the polluter and writ compelling the government agency to enforce the law and clean up, Application for compensation under The Public Liability Insurance Act 1991 or National Environment Tribunal Act 1995 and ‘Public nuisance’ under Criminal Procedure Act 1973 and criminal complaint under section 19 of EPA. The upshot of this is show that in the Indian case, there is reason to believe that the *law on books* was quite extensive and substantive. Thus there is no reason to believe that an absence of law is responsible for the environmental problems. The problem lies with implementation and the dilution of the law on books that seem to be the major obstacles to conventional regulations not being in the public interest. Economic factors such as economies of scale that prevent private litigation in large scale problems and high transaction costs of class action seem to be key factors.

Regulatory failure consists of two components:

- a) Capture by ‘influence’ and
- b) Corruption

The first is Ex-ante capture and can occur at the time of legislation. The private interest theories of regulation suggest that regulation is demanded by private interest groups that

stand to gain from it¹⁵. In the case of environmental legislation, capture of this kind would be reflected in compromising with the stipulations of expert-opinions or standards in the enactment of the law. Thus if the standards prescribed by the experts on pollution levels do not get translated into legislation and instead the enacted Law that is agreed upon is set below the recommended one, it can be indicative of capture. The stronger is the influence of interest groups upon the State, the more would be the dilution from the norm that is recommended.

The second aspect of regulatory failure is to do with the implementation of the (possibly diluted) act. This is ex-post failure. There can be many reasons for ex-post failure but the most common is corruption. One can however think of lack of sufficient infrastructure facilities to monitor violation of norms, laxity in monitoring, or a lack of corresponding legal authority in the hands of the monitoring agents to be effective regulators. A well-known version of the private interest theory of regulation is that the idea that regulatory agencies typically undergo a life cycle in response to the political environment and as time passes by and the interests of the people shift away from this policy, these agencies become vulnerable to domination by regulated interests. Many times the lack of public attention, expert information being supplied by the party under regulation, or the recruitment of ‘experts’ from the regulated industries can all weaken the regulatory agency and its policy.

Which of these factors explains ex-post regulatory failure is an empirical question and would vary with each case. Documentation of Regulatory failure of both kinds can be done by analyzing the legislative process that led to the enactment of particular acts and to compare the norms that the act was based on (expert committee recommendations) with the final Act that was legislated. If there were no good reasons given for any dilution of the committee recommendations then one can conclude the presence of interest groups at work. Secondly, if data on the actual harm levels is obtained *after the Act comes into effect*, a consistently higher level of harm as compared to the standard set by the act would be an indicator of regulatory failure of the second kind. In some cases, the number of *executive petitions filed* (i.e. petitions that are filed by victims in the event enforcing agents fail to comply with the enforcement of the legislated standard) can also be an indicator of failure at the level of implementation. In

15 See Stigler- Peltzman model of private interest theory of regulation.

the next section we use the evidence on the decision of the Supreme Court to close down industrial units in New Delhi, following a public Interest petition to assess the efficiency of such a mechanism to bring about the economically efficient outcome.

A) The case of Delhi Air Pollution

We have chosen Delhi as a case to substantiate our hypothesis to show that the conditions under which Public Interest Litigation is an effective legal procedure were largely met in this case. In Delhi there were a number of policy initiatives such as committees and regulatory authorities constituted in the 90's to assess, monitor and control pollution. Still Delhi's level of air pollution is much higher compared to other major cities in India¹⁶, where the major contributors are unrestrained vehicular traffic and industrial units situated in non-conforming residential and sensitive areas. None of the regulatory measures seem to have worked till mid 1990's.

Things have improved only after Supreme Court of India, responding to a PIL petition, issued orders to the concerned authorities. We, first, summarize the initiatives taken by the government such as regulatory authorities and committees constituted to analyze and find ways to check pollution, particularly air pollution. In the process we establish that regulatory approach to abate pollution in India succumbed to interest group lobbies and failed even in implementing the existing environmental statutes. Subsequently we list the directives given by the Court in response to PILs that resulted reduction in pollution in Delhi in the late 1990's.

B) Acts, Legislation And Enforcement Authorities

The Air (Prevention and Control of Pollution) Act 1981 envisaged establishing Pollution Control Boards in the States to monitor and control air and noise pollution level through licensing. The Environment (Protection) Act 1986 included a nation wide strategy for controlling air pollution and further was strengthened in 1994. National Ambient Air Quality Standard for the country (NAAQS) was set through notifications in 1982 and 1994.

¹⁶ Delhi is one of the ten most polluted cities of the world (Brandon and Hamman, 1995, Kathuria, 2001).

There were specific policy initiatives for Delhi state alone. Delhi Development Authority (DDA) was created under Delhi Development Act of 1957 for the planned development of Delhi. The Delhi Master Plan (perspective) 2001 was introduced in the '80s and set out the pollution emission standards in National Capital Region. Different standards have been specified for industrial, residential and sensitive zones. National Ambient Air Quality Monitoring Programme (NAPM) and National Ambient Air Quality Standard (NAAQS) were set up by the Central Pollution Control Board (CPCB) to identify and monitor the pollution level and regularly appraise pollution control programs in the city. More than 280 stations nationwide were set up to monitor and record the emission levels by collecting 24 hourly and annual averages for many of the pollutants were collected and compiled.

Delhi Pollution Control Committee was constituted¹⁷ under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 and was further strengthened in 2002 under various acts such as Hazardous Waste (Management & Handling) Rules, 1989 and Noise Pollution (Regulation & Control) Rules, 2000. This committee was bestowed with power to assess and prevent pollution in the Union Territory of Delhi, replacing Central Pollution Control Board. The major function of the Committee is to specify effluent standards for automobiles, industrial plants, and any other polluting source and also take steps for the prevention and abatement of air and water pollution.

C) Evidence of Capture: Dilution of Standards

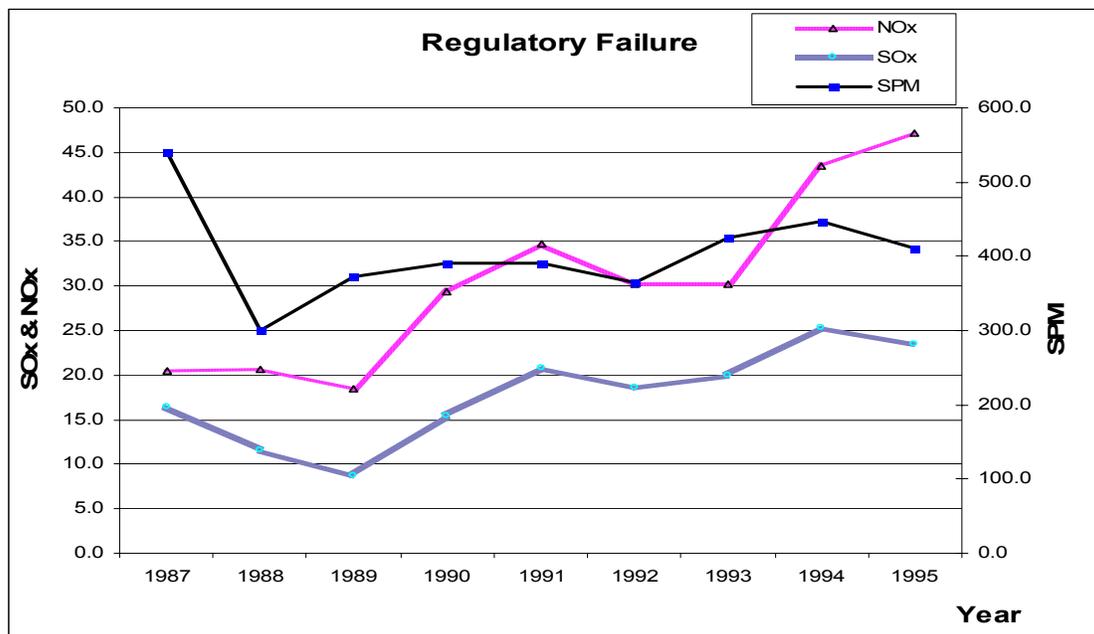
A committee under H.B. Mathur of Indian Institute of Technology, New Delhi was set up to recommend vehicular emission norms for 1995-2000. There were specialized sub-committees under S. Raju of the automotive research association of India to recommend on petrol cars and B.P Pundir of Indian institute of petroleum for diesel vehicles. Industrialists protested against the Mathur committee recommendations and Ministry of Environment And Forest (MoEF) opted for a softer version of the recommendation in 1993. Further more the lobby group succeeded in postponing the date of the enforcement of the committee recommendations by one year from April 1995 to April 1996. These two committees set the pollution standards for industrial and vehicular pollution in the capital

17 S.O. 198(E)

tertiary of Delhi. But there were lots of opposition to the standards and eventually the lobbyists succeeded in diluting the standards (Divan and Rozencranz, 2001). Also there are multiple authorities to implement the set standards. But the regulatory authorities seem to have failed in controlling air pollution in Delhi. As is evident in the pollution data of the early 90's, the pollution level of SO₂, NO₂ and SPM had been on the rise in the early 90's. Table:1 indicates that the statues enacted, standard set and government machinery responsible for pollution control did not succeed in effectively controlling air pollution in Delhi. Particularly Suspended Particulate Matter in the air is phenomenally high compared to the international standard. The reason could be laxity in enforcement and enforcement was not mandatory for the agencies in the sense that the enforcement agencies were not accountable to any higher authority.

D) *Ex post* Regulatory Failure

The second type of regulatory failure that was discussed refers to the inability of enforcement authority to bring about a compliance level to the recommended standards. Comparing the recommended standard at the time of its implementation can easily substantiate evidence of this and the subsequent pollution levels as measured by monitoring units in the city. If the records show that pollution levels were consistently higher than the recommended levels in the year subsequent to the enactment of the Acts, this would be indicative of *ex post* failure. The table below shows that all the three pollutants were showing an increasing trend in the early 90s.



E) PIL as an Alternative form of Control

Supreme Court of India was active in abating pollution in Delhi. Replying to a PIL case in 1990 the Court demanded the city administration to submit a complete list of acting taken against the environmental tort feors and also directed the state to explore the possibilities of reducing pollution¹⁸. Subsequently the Court asked the government to form a high-powered committee, the K.N.Saikia Committee to assess the low cost technological alternatives and new legal solutions¹⁹. The Court was active through out this period as it was concerned of strengthening the prosecution of defaulters²⁰, reducing the pollution by the Delhi Transport Corporation buses by ordering them to change to gas²¹. The Division Bench of Supreme Court consisting of Justice Kuldip Singh and Justice S Saghir Ahamad in 1995 directed the Delhi Government to set up a committee to study industrial concentration in non-conforming areas such as colonies and other residential pockets.

18 Writ Petition (Civil) No. 13029 of 1985, order dated 14 November 1990

19 Writ Petition (Civil) No. 13029 of 1985, order dated 19 February 1991

20 1991 (2) SCC 137

21 Writ Petition (Civil) No. 13029 of 1985, order dated 3 October 1991 and 25 October 1991; it was extended to all public buses (Writ Petition (Civil) No. 13029 of 1985, order dated 8 January 1992) and all government vehicle were ordered to shift CNG (26 April 1996)

The Environment Pollution (Prevention and Control) Authority for NCR of Delhi was constituted under the guidance of SC for protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. In May 1992 SC had ordered all stone crushers along Delhi-Faridabad boarder close or shift away from Delhi as they were polluting Delhi air. In 1995, as per the Court order, individual notice had been sent to 8378 industries asking them to relocate or stop functioning as they are polluting industries and or functioning in non-conforming areas specified in Delhi Master Plan.

In the subsequent notifications SC had made its point clear that forms that are noxious and hazardous particularly industries that fall under the category of 'H(a)' and 'H(b)' should be relocated in a stipulated time of three years and other not noxious but nuisance causing units should move out in four years²². More than 1,300 industrial units have been closed. The Supreme Court has ordered closure of industries as per the details given below.

The Delhi Government under directions from the Supreme Court has identified 102 acres of developed land in the existing industrial estates and seven other locations with an area of approximately 4,800 acres for relocation of the industries. 1,300 acres have been notified for acquisition and development of new industrial estates for relocation of industrial units. More importantly the Court had directed the polluting industrial units to contribute 20% towards building 28 Common Effluent Treating Plants and take the liability of another 30% as loan from Industrial Development Bank of India or face closure.

Electrostatic precipitators have been installed at the three power plants to control particulate emissions such as Sulphur dioxide, oxides of nitrogen and particulates. Sulphur dioxide and oxides of nitrogen are emitted through stacks of specified height to facilitate wider dispersal so that the ground level concentrations of these gaseous pollutants are kept controlled. Stack monitoring is being done on a regular basis.

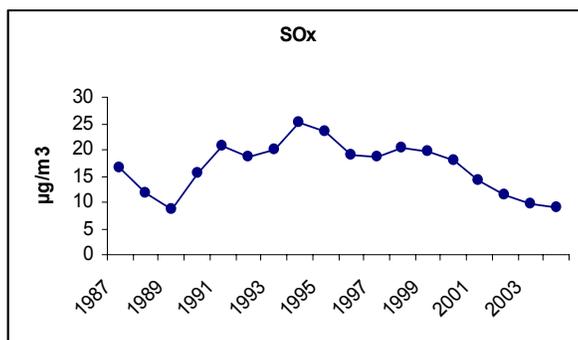
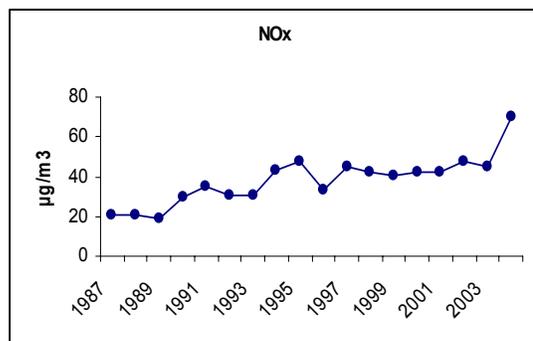
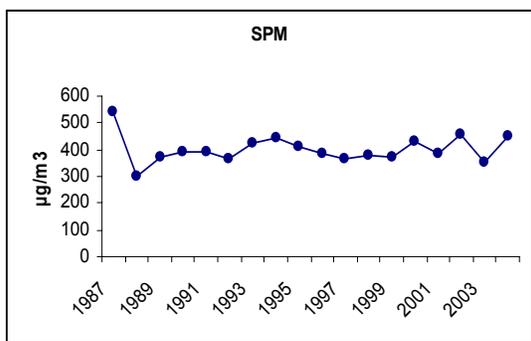
²² Delhi Master Plan has categorized the industries in Delhi into A to H. of that H category has been subdivided into 'H(a)', which include noxious and hazardous industries such as Cellulosic Products, Cement and Refractories, Explosive and Ammunition, Fertilizers, Inorganic and Organic Chemical Industries, Leather and Other Animal Products, Metallurgical Industries, Paper and Paper Products, Poison, Radioactive Elements and Rubber Industries and 'H(b)', heavy and large industries.

Regarding vehicular pollution the Court came out with a series of orders that directs the pollution control authorities to execute the standards set by various committees and boards²³. As an affidavit filed by the CPCB attributes more than 2/3 of the pollution to vehicles particularly the diesel run two wheeler, the Court had ordered all the new diesel vehicles to be registered after June 1999 in Delhi should abide to Euro-1 emission norms and vehicles to be registered after 2000 April should abide to EURO II emission norms²⁴. Environment Pollution (Prevention and Control) Authority for the National Capital Region states in a report on clean fuels that Sulphur content in diesel and petrol was ordered to be reduced to a maximum of 0.25% and 0.10% respectively and steps were taken to control Benzene and lead in petrol (EPCA, 2001). All vehicles that are 15 years and older were phased out. All government vehicles were asked to convert to CNG.

The above said measures seem to have worked in reducing pollution in the city. There is a drastic reduction in the level of Suspended Particulate Matters in the air of Delhi. The reduction in the mid 90's has been sustained even further, particularly SPM level shows a clear reduction right after 1996 court intervention in redeploing or shutting down of polluting industries and later its involvement in reducing vehicular pollution. It reached the acceptable level of 360 $\mu\text{g}/\text{m}^3$. The other two major pollutants namely SOx and NOx also seem to have moderated in the same period (*Parivesh*, 1999).

23 1998 (6) SCC 63 and AIR 1999 SC 291

24 1999 (6) SCC 12



The above diagram captures the time trend of pollutants SO_2 and NO_2 . Over years SO_2 and NO_2 concentration in the air has been brought down, particularly in the mid 90's. Committee of Auto Fuel Policy states that in most of the major cities the level of pollutants such as SO_x , NO_x , SPM and PM_{10} has gone down in 2000 comparing to that of 1995. The reasons for the reduction in pollution in Delhi could be attributed to court activism. Responding to some of the public interest litigations the Supreme Court of India, assuming a proactive and progressive role of judiciary ordered to close down those companies that pollute the ambient of Delhi. More importantly to involve the public in the process of fighting environmental pollution SC had made it mandatory for the theaters, TV and radio stations to run environmental programs.

VI

Summary and Conclusions

We have shown in the paper that PILs have played a lead role in enforcing the environmental standards in the Indian context. Despite of strict environmental standards and the presence of regulatory authorities air pollution level in Delhi was exceeding the

acceptable levels. Not surprisingly there were no private litigation or class action against individual industrial units even though many of them were situated in non-conforming residential areas in Delhi. This shows that private litigations and class actions are generally inadequate to resolve mass environmental torts. It was quite evident in this case that regulation too have failed due to *ex ante* and *ex post* captures. The government has softened the standards set by committees and even the reduced standards were not implemented effectively.

PILs and Supreme Court's environmental activism have resulted in reduction air pollution in Delhi. SPM, SO_x, NO_x have shown reducing trend in the late 90s and reached the acceptable level through court order to redeploy non-conforming polluting industrial units and adopt stringent vehicular emission standards. As it is argued PILs increase the number of potential litigants enormously, thus increases the deterrence effects, which in turn increases the expected cost of trial of the potential tortfeasor. But deterrence effect is not evident from Delhi pollution case, as it is one of earliest of its kind. However it took 10 years to pass the judgment on a PIL case filed by Mr.M.C.Metha and court has issued as many as 52 directives in this regard. Even though PIL has resulted in reducing pollution, the time taken for this to happen shows that there are costs of implementing court decisions, which are generally not taken into consideration in standard analysis. The possibility that PIL could be used in the future to cater to private interests is also not ruled out and unless more cases are studied, the hypothesis that PILs are unambiguously welfare improving cannot be deduced. This paper takes only the first step towards a more complete analysis of the economic Efficiency of PIL.

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