



# *Policies & Perspectives*



VIVEKANANDA INTERNATIONAL FOUNDATION

## *Tackling Air Pollution: It's a National Imperative*

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21 Nov 2017

*Over the last few days, residents of Delhi and the National Capital Region (NCR) became victims of a serious air pollution crisis. A dense smog hung in the air, triggering a major health issue. Pollution levels were 'hazardous' and 'severe; on some days, threatening to touch the 'very severe' mark. While the causes for the sharp rise in the pollution level were many, the seasonal crop stubble burning by farmers in Punjab and Haryana aggravated the situation. With knives out, political parties began to slash at one another for the disaster. The situation is so hopeless that everyone is now depending on the rain gods to offer relief — there are predictions of rain.*

*As the familiar political slugfest took center stage, the Delhi government announced temporary measures by re-introducing the earlier tried experiment of restricting vehicular movements on the roads under the 'Odd-Even' scheme; stopping construction activities in the region; closing down schools; shutting down polluting firms and placing curbs on the entry of heavy commercial vehicles into Delhi. The National Green Tribunal (NGT) too got into the act by laying down guidelines for the automatic implementation of certain measures as soon as the critical pollution indicators reached per-defined levels, though questioning the efficacy of the Odd-Even scheme, removing the number of exemptions built into to process. The NGT had justifiably questioned the Delhi Government's rationale to re-introduce the Odd-Even scheme, pointing out that in the earlier experiments, data from pollution control boards of both the Centre and Delhi had indicated no significant drop in air pollution — PM 2.5 and PM 10 levels. The NGT dubbed the Odd-Even experiment as a "farce" and said the Delhi regime would have to give an undertaking that the scheme would be implemented only if the PM 2.5 level remained above 300 micrograms per cubic metre for 48 hours at a stretch. The tribunal questioned the wisdom of exempting two-wheelers which, it said, accounted for 46 per cent of air pollution. (Eventually, the NGT gave a green signal for odd-even, but without exemptions to two-wheelers and women drivers or Government servants.) On its part, the Central Pollution Control Board had said in one of its reports that "while some reduction is likely to happen due to the Odd-Even scheme, a single factor cannot substantially reduce air pollution levels in Delhi". Miffed at the withdrawal of exemptions granted to two-wheelers and women driven vehicles, the Delhi government called off the 'Odd-Even' scheme, deciding instead to petition the NGT to review its decision.*

*In the midst of the hectic debate, it is widely agreed that the stop-gap solutions had not worked in the past and will not do in the future as well. Besides, short-term measures have a short shelf life by definition. The odd-even scheme cannot be in operation forever; industrial units cannot remain shut for long; heavy vehicles cannot be prevented from entering Delhi for months together; construction activities cannot remain in limbo beyond a point. They can at best provide a bit of temporary relief, but not resolve the issue.*



*Knee-jerk reactions to a crisis may be explained away if the crisis is both unexpected and unprecedented. But the air pollution problem is a constant in Delhi and the NCR, and the severity too is anticipated — it happens every year in the days and weeks following Diwali. The post-Diwali period is also when farmers in the neighbouring States burn crop stubbles and by-products of crops in order to clear the fields for the next round of farming. The westerly winds then do the rest. (It may be recalled that earlier, the Supreme Court had also done its bit by banning the sale of firecrackers during the Diwali festive season in a bid to check air pollution). But the authorities sit virtually idle for 10 months of a year and wake up to the realisation with half-measures only when the clouds of smog descend and begin causing havoc — to the health of the people and in the smooth movement of various forms of vehicular traffic.*

*Delhi still remains the country's most polluted among big cities (with a population of more than 14 million). Its annual PM 2.5 levels are three times the national standard (and a whopping 12 times the WHO standard). It's obvious that there has been no real improvement over the last three years in Delhi despite the claims of local authorities and initiatives such as the odd-even scheme, curbs on movement of heavy commercial vehicles etc. It is small consolation that Delhi, which had been rated as the world's most polluted city in 2014, has now improved its position to being the 11th in the list. But even this may have to do less with any improvement in air quality levels and more to do with the methodology applied by the WHO as well as the inclusion of some 1,400 new cities in the list. Delhi gained in a relative sense, not in absolute terms.*

*There can be some nit-picking that since the WHO has based its study on PM 2.5 (fine, particulate pollution) and not on PM 10 (coarse particle pollution), many European cities that have a high PM 10 have escaped censure. For instance, quite a few of such cities have high nitrogen oxide and ozone levels, but these do not get reflected since they are not monitored within the parameters the WHO has adopted. According to a recent report in a national daily, France has 247 cities while Italy has 216 that breach the WHO standards; India has 121 cities. Even if these factors are considered favourably, they do not in any way dilute the stark and serious dangers of pollution back home.*

*Environmentalists and other experts have been crying themselves hoarse over the need to adopt long-term, holistic and sustainable measures to tackle the grim menace. But some of the short and medium term steps too have not been implemented. Delhi's bus fleet was supposed to be augmented with the addition of 2,000 new buses, but it has not been done. The Delhi Government has argued that there is no space for more bus depots, and that getting land from the Delhi Development Authority, is a near-impossible task. Another suggestion that only diesel generator sets that meet high anti-pollution standards should be allowed to operate, has also remained on paper. Other ideas on checking vehicular pollution, such as tightening of Pollution Under Control (PUC) norms and strict auditing of the functioning of PUC centers, have also remained non-starters.*



*Broadly speaking, there are two ways to better understand the air pollution issue and find lasting solutions. The first is to institutionalise and adopt internal mechanisms, and the second is to learn from the methods used by other countries that have more successfully grappled with the crisis. The second can be used as inputs to firm up internal mechanisms wherever possible.*

*Everyone is agreed on the need to put an end to crop stubble and by-product burning. According to some estimates, stubble burning raises the top soil temperature up to more than 40 degrees Celsius. Even the farmers of Haryana and Punjab who indulge in it are unanimous on the need to stop the practice. They too realise the harm that stubble burning does not just to the environment but to farming itself (soil gets less nutrient because the raised top temperature kills microbes which contribute to soil nutrition). But they have their compulsions — they need to clear the fields within three weeks for the next sowing season — and need incentives to discard the practice. In other words, stubble burning should be dis-incentivised. This cannot be done through imposing stiff penalties because such a penal measure could not just destroy the farmer mentally and financially but also often result in law and order problems in the event of organized and sustained movement against the penalty. Politically too, it makes no sense for regimes to be seen as penalising farmers.*

*Experts have been for long suggesting various ways to tackle the issue. One such recommendation is to educate the farmer that the crop stubble can be used in compost farming or for power generation (through the use of biogas) or in mushroom production. If the farmer can derive gains from retaining rather than burning the stubble, he would naturally opt for the former. Another approach could be for the government to procure the stubble and direct it to factories that produce cardboard and plywood and packaging material.*

*Farm experts have offered other options too. The Government should make it easier for farmers to lease or purchase modern machines that sow wheat without having to burn paddy stubble. There is not only a shortage of such machines — the Happy Seeder, for instance — but is also prohibitively priced for the average farmer. The Government must formulate policies which would encourage farmers to adopt these modern methods. The other way out is for the Centre to provide some sort of incentive to farmers in the form of a bonus payment to those who refrain from burning the crop stubble. The Punjab Chief Minister offered this suggestion, but doles are unlikely to be a sustainable solution, especially given the massive levels of stubble burning — it is estimated that in Punjab alone, farmers burn paddy straw to the tune of 20 million tonnes every year.*

*Moving on to the experiences of other cities, it may be noted that London and Beijing have been dealing with smog and other forms of air pollution for years. While they have not been entirely successful, they have nevertheless made significant strides. It may be recalled that The Great London Smog of 1952 had claimed an estimated 12,000 lives. The use of coal as the main fuel by Londoners was common as other*



*forms of fuel were expensive. Coal was the fuel not just for power generation but also for heating up homes and industries. London's fog (smog) had in those days become legendary. Then came the concerted efforts by Governments, industries and advocacy groups, which brought about a turnaround. Clean air policies were implemented and the use of coal as the preferred fuel was abandoned in favour of cleaner and affordable fuel.*

*China is launching a plan of action to tackle air pollution in the Beijing-Tianjin-Hebei region. The country's Ministry of Environment Protection is closely monitoring the implementation of the measures which include shifting of polluting industries and strictly punishing offenders. According to the US embassy in Beijing data, the city's air quality during 2008-15 taken as daily average air quality index (AQI) and based on PM 2.5 readings, was as follows: Unhealthy (49 per cent); unhealthy for sensitive groups (13 per cent); moderate (18 per cent); and good (just two per cent). Many experts, including Greenpeace, are optimistic about the measures being taken to contain air pollution by Chinese authorities. The 'red alert' that Beijing issued a year ago is seen as a recognition by the officials of a major crisis which needs to be fixed.*

*Given that road traffic is among the biggest contributors (even the biggest in some sectors) to air pollution, India has a lot to learn from the West and the Nordic nations on containing air pollution through an effective public transport system. France, the Netherlands, Finland, Denmark and Norway have excellent bus transport systems that cut down on the need for citizens to use private vehicles for commuting. Paris bans the entry of cars in several districts on weekends; authorities in the Netherlands are mulling the idea of allowing only electric or hydrogen vehicles in cities; Finland is working on a grand public transport scheme that will render it unnecessary for citizens to own a car. There is a lesson to be learned from Brazil too — because of its low-cost vast network of bus service, nearly 70 per cent its citizens use the public transport, contributing to a massive reduction in air pollution. Another noteworthy example is Mexico, which was once mired in air pollution but after a series of determined measures, is now a success story.*

*The most tragic fallout of the air pollution crisis is, of course, the heightened health hazard to residents. The closure of schools across Delhi and neighbouring regions was just one acknowledgement of the impact air pollution was making on the people's health. Doctors issued a health advisory asking people to avoid outdoor activities like jogging and cycling. They have warned of lung and cardiac problems, besides an escalation in respiratory disorders among the vulnerable — asthmatic patients, the elderly and the children. According to a news report, the out-patient department (OPD) of All India Institute of Medical Sciences (AIIMS) registered a 20 per cent rise in patients reporting respiratory and cardiac issues during the recent smog period. Other hospitals too have seen a spike in the arrival of patients with similar conditions.*

*Given that the immediate focus has been on the situation in Delhi, an impression may gain ground that Delhi and NCR are the only problem areas in the country. This ought to be dismissed forthwith. It's a*



*national problem. We take pride in having moved into the top 100 rank in the ease of doing business report by the World Bank, but we fare miserably in the latest World Health Organisation ranking on the world's most polluted cities — 10 of the world's 20 most polluted cities (in terms of PM 2.5) are located in India. Not just the metro cities but even smaller ones, especially those in northern India, such as Lucknow, Varanasi and Patna have reported high levels of air pollution. A national problem needs a national solution, which is why it's imperative that a joint action be conducted by the Centre and the States together. Piecemeal efforts will not do.*

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*(Views expressed are of the author and do not necessarily reflect the views of the VIF)*



## About VIF

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