



## ECONOMIC DEVELOPMENT AND ENVIRONMENTAL CONCERNS

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### **ABSTRACT**

*Economic development is defined as the long term effort of an economy which provides sustainable growth of economic, social, political and environmental factors. The world has seen a lot of progress in the past years. Some economies are developed; some are developing, while some are still under developing.*

*However, the concern arises with the fact that environment is being put on stake with the goals of economic growth and development. Rising pollution levels and environmental degradation is a world-wide concern in the present century. According to UN's Intergovernmental Panel on Climate Change, warnings have been issued for the increasing climatic changes dangers and solutions need to be found out for the same.*

*The concern lies in the fact that when economies try to grow, and they must grow obviously, what happens to the environment? Should the environment be put at stake in place of growth? And if the answer is no, then what should be done to balance the two things, both of which are very essential.*

*This paper addresses the above questions in a detailed manner with a focus on the National Capital of India, New Delhi.*

### **Keywords:**

Environment, Environmental concerns, Environment and development, India, New Delhi.

## **Scenario in Delhi:**

First of all, the reasons need to be identified which hold responsible for the environmental damage:

1. **Population:** Yes, the ever growing population is a major factor in the environment degradation. According to estimated figures of Census of India, the population of Delhi alone is around 18.6 million. A lot of people migrate to Delhi in search of better job opportunities and a good living standard, increasing the population and decreasing the per capita density. This number has been growing ever since which is one of the main reasons of environmental damage.
2. **Vehicles:** The rise in living standards of the people, which is a required sign of economic development of an economy, also raises environmental concerns. With greater per capita income, people are now able to afford luxuries apart from the basic requirements. As per the statistics of Delhi Police, around 4,30,603 new passenger vehicles were registered alone in 2015. Delhi has the highest number of registered cars as compared to any other metropolitan city in India. The harmful gas emissions from these vehicles contribute majorly to pollution.

Other reasons include industrialization, chemical and gaseous emissions from various industries and factories, inefficient allocation of resources, improper management of the policies formulated, etc.

In India, there is Central Pollution Control Board (CPCB), which keeps a check on the pollution levels of the country covering 240 cities. In Delhi, there are 6 such stations under CPCB.

The board has identified 4 major pollutants, namely SO<sub>2</sub>, NO<sub>2</sub>, CO and PM<sub>10</sub>, which are regularly monitored to identify pollution levels across various stations in the cities.

Below is a table comparing the actual values observed in years 2000-2014 with the standards set by the CPCB.

Table 1: Table showing Air Quality Standards from 2000-2014

Years	Ambient Air Quality ( $\mu\text{g}/\text{m}^3$ )			
	SO <sub>2</sub>	NO <sub>2</sub>	CO	RSPM (PM <sub>10</sub> )
2000	18	41.8	4686	191
2001	14.1	41.8	4183	150
2002	11.3	50.8	3258	192
2003	9.5	55.8	2831	170
2004	9.3	57.4	2581	160
2005	8.8	55.9	2541	168
2006	10.2	55.9	2531	177
2007	4	38	2460	161
2008	5	43.1	2461	201
2009	5	47.03	1768	248
2010	5	46	1937	249
2011	15	66	2020	281
2012	18.2	82.4	2020	293
2013	20.1	77.5	2100	282
2014	16.9	79	1700	318
<b>Standard Value</b>	<b>50</b>	<b>40</b>	<b>2000</b>	<b>60</b>
Percentage Increase	-6.11	88.99	-63.72	66.49

As the table shows, the SO<sub>2</sub> levels have been within the prescribed standards over the years, least being in 2007 and highest in 2013. However, SO<sub>2</sub> emissions have seen a decline of 6.11% from 2000 to 2014.

NO<sub>2</sub> emissions are seen to be almost above the standards set with highest in the year 2012, almost 2 times the standard value. The emissions have seen an increase of a major 88.99% from 2000 to 2014.

CO emissions have however seen a downtrend of 63.72% from the year 2000 to 2014. It was highest in 2000 and least in 2014.

The high levels of PM<sub>10</sub> are of alarming concerns, have increased by 66.49% from 2000 to 2014. The emissions are observed to be almost rising over the subsequent years and are almost 5 times the prescribed standard in 2014. PM<sub>10</sub> particles include very small particles which can deeply enter the respiratory tract causing adverse health impacts.

According to a report of World Health Organisation (WHO), Delhi is amongst the cities with the worst air quality.

The following table shows the SPM levels in different locations of Delhi on Diwali nights, for the years 2007-2009:

Table 2: Table showing SPM levels on Diwali nights in different locations.

S.No	Location	Standard	2007	2008	2009
1	Adarsh Nagar	200	1012	670	630
2	Anand Vihar	200	1226	643	661
3	Ashok Vihar	200	1620	598	660
4	Badli	200	987	785	667
5	Dwaraka	200	1647	627	587
6	Greater Kailash	200	2008	577	601
7	Janak Puri	200	2490	660	545
8	Karol Bagh	200	2161	595	662
9	Lajpat Nagar	200	2575	627	652
10	Mandavali	200	1422	537	603
11	Mehrauli	200	1577	537	592
12	Moti Nagar	200	1985	586	572
13	Mukherji Nagar	200	1178	696	<b>730</b>
14	Naraouji Nagar	200	2860	577	616
15	New Friends Colony	200	1586	572	<b>723</b>

16	Paschim Vihar	200	847	616	560
17	Patel Nagar	200	1893	644	584
18	R.K. Puram	200	2940	574	638
19	Rajpura Road	200	873	581	508
20	Rohini	200	1096	652	<b>718</b>
21	Sarita Vihar	200	843	792	<b>710</b>
22	Shalimar Bagh	200	2793	597	637
23	Shanti Vihar	200	1630	562	587
24	Vasant Kunj	200	1720	659	572
25	Yamuna Vihar	200	1002	624	568

The standard value set by CPCB is 200, which we can clearly see is exceeding multiple times on diwali nights. Although there has been reduction in subsequent years but the problem still pertains.

A report by System of Air Quality and Weather Forecasting and Research, pollution levels are rising in Delhi and are reaching near Diwali levels.

The major contributor to air pollution is the increasing number of vehicles. With the rising population and rising income levels, vehicle ownership has also increased which has shifted the focus of government and environment ministry efforts in improving the air quality. Apart from vehicular pollution, pollutants like nitrous oxide (NO<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) affect health like eye irritation, breathing issues, damage to respiratory tracts etc and the situation gets worse for people already suffering from respiratory problems.

In Delhi, a recent step was taken to curb the rising pollution: Odd-Even Plan. According to this, on even dates, only even numbered cars were allowed on road and on odd days, odd numbered cars were allowed. This was effective from January 1, 2016 to January 15, 2016.

The reports were positive as they claimed that pollution levels reduced significantly. Not only had it a positive effect on pollution, but also on road congestion, increased public transport

ridership, fuel consumption, emergency vehicles etc. Roads were found to be less congested even on the busiest stretches like Akshardham flyover and others across the state, people used public transport in rising numbers, petrol and diesel were consumed less, ambulances had an improved response time and also, the driving time reduced significantly.

So what made this plan a successful one? The answer is- people's cooperation. The general public adhered to the rules as they are also familiar with the rising pollution problems. Persons who violated this rule were fined a heavy amount of 2000 bucks. The government generated good amount of revenue too, which it plans to use further promoting and forming strategies for the same.

### **Steps undertaken:**

What should be done then to curb pollution in developing countries like India so that the goals of growth and development also get accomplished? First of all, there is a need to impart education and awareness amongst people that they have a collective responsibility to save the earth. Even if each person tries to maintain their immediate surroundings, imagine what a significant impact it will have! People keep their houses clean, so should they do for the environment. There is a need to inculcate responsibility and care in people for their environment. According to a report by Hindustan Times, 14 metro construction sites were fined Rs. 50,000 environmental compensation charge for flouting dust pollution norms. A recent study by IIT Kanpur on Delhi's air quality identified soil and road dust as the single biggest source [38%] of PM 2.5, fine particles that severely harm the respiratory system. Supreme Court of India is soon planning to make it mandatory for realty projects to initially fulfill the environmental clearance, which is indeed a fantastic move. The government has also announced that startups in India will be asked to self-certify compliance with environmental norms. Also, law judiciary is planning to set up Green Courts, which will exclusively deal with the environment cases so that the issues can be heard clearly and promptly.

Shri Prakash Javadekar, the Minister for Environment, Forests & Climate Change, launched The National Air Quality Index (AQI) in New Delhi on 17 September 2014 under the Swachh Bharat Abhiyan. It is outlined as 'One Number- One Colour-One Description' for the common man to judge the air quality within his surroundings. Institutional and infrastructural measures are being undertaken in order to ensure that the mandate of cleanliness is fulfilled across the country.

Also, apart from the above enforcements, financial and other support should also be given to startups which help generate green energy or help in environmental improvement, boosting both economy and environment.

## **Conclusion:**

India stands among the worst countries for expat destinations across the globe, according to Expat Insider 2015. As they say that a healthy person can work more efficiently and productively, we first need to make our environment better so that it helps in increasing its productivity and efficiency which will definitely help boost the economy. India still is facing many challenges to match up the goals of development and environment and it has a long way to go. However, India's efforts for improving air quality and encouraging alternative energy fuels like CNG, has definitely seen progress. But, it is not only the responsibility of government to make and enforce stricter laws, the responsibility lies in the hands of people too. The government's ability to protect the environment depends upon the successful implementation of various policies that will keep the economy growing and help in sustainable development too.

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