

## AIR POLLUTION IN DELHI & OUR RIGHT TO BREATHE



### I. Current situation

According to the World Health Organizations WHO (2013) air pollution is the fifth largest killer in India. 13 out of the 20 most polluted cities in the world are in India with Delhi being at the forefront.

The air pollution in Delhi is caused by different sources, with emissions from Diesel vehicles being one of the main and most dangerous ones. The International Agency for Research on Cancer and WHO declared in 2013 outdoor air pollution, particularly diesel fumes, as a group 1 carcinogen. Diesel exhaust is therewith in the same category as deadly carcinogens like asbestos, arsenic or tobacco. Other sources of air pollution are combustion of agricultural residue, of coals for electricity production etc.

Even though there were some improvements in air quality in the beginning of the millennium, these gains have long been lost. The impact of the dramatic increase in air pollution has become evident in a 2012 study of 11 628 school going children in 36 schools in Delhi which found that every third child has a reduced lung function and that sputum of Delhi's children contains four times more iron-laden macrophages that those from cleaner environments. Living in Delhi is equivalent to smoking 10 cigarettes per day and it comes like a shock when you realize that your 5 year kid has already smoked 10,000 + cigarettes in another form.

Air pollution is the introduction of particulates, biological molecules and other harmful matters into the atmosphere. Particulate matter is considered the most harmful aspect of air pollution to our health. Particulate matters can come in almost any size<sup>1</sup>, they can be liquid and solid, and can be made of different material.

Due to the size, particulate matter can enter our lungs and even our blood stream and can cause considerable harm to our body. The endpoint of the toxic risk is cancer. Internationally recognized studies have shown evidence of the link between lung cancer and particulate matter pollution. Studies also show a strong and consistent association of air pollution with other diseases and premature death including cardiovascular diseases, eye disorders, diabetes and cellular changes. Air pollution even puts the unborn children at risk.

The air that we breathe in Delhi is becoming more deadly and toxic with every passing year. International limit for invisible Particle Matter (PM<sub>2.5</sub>) is described at no more than 15 microgram/m<sup>3</sup> but Delhi's annual average is 350 microgram/m<sup>3</sup> and in winter season it shoots up to even 2000 microgram/m<sup>3</sup> on a smoggy day.



### II. What do we need to change the current situation?

#### 1. We have to decrease air pollution!

Individual motorized transport is considered convenient and a sign of wealth. Yet, it poses significant harm to the society as a whole. In order to combat air pollution we have to change individual's perception of individual motorized transport and encourage people to primarily use more sustainable and clean modes of transport and if using individual transport using those vehicles causing less pollution. While many Indian's do not have a choice but burn biomass for e.g. cooking, trash is often also burned out of convenience or lack of knowledge of it's effect. Making aware of the effects of unnecessary combustion as well as other practices increasing pollution as extensive electricity consumption, use of toxic cleaning products, paints etc. in order to stop such practices is also needed.

<sup>1</sup>We can divide the particles into two major groups, the big particles or PM<sub>10</sub>, which are between 2.5 and 10 micrometres (from about 15 to 100 times thinner than a human hair) and the small particles or PM<sub>2.5</sub> (which are 100 times thinner than human hair).

The government does not only have to provide infrastructure to enable and encourage people to use public transport. Action is also needed to decrease air pollution caused by vehicles by introducing tighter emission standards and better fuel quality. Public pressure and support for measures taken by the government in this area will facilitate such action.

Delhi is long due with bypasses and dedicated freight corridors which can help in controlling the polluted emissions of thousands of trucks passing through Delhi to reach other states. Government needs to push higher emission standards of BS-V or more. As of today only NCR and 13 other cities have BS-IV standards but vehicles from all other states with lower emission standards are plying across the city or crossing the city everyday to reach their destination.

The booming real estate sector in Delhi-NCR is also contributing to high levels of pollution. Government needs to ensure policies to control fugitive emissions from all constructions sites in Delhi-NCR.

Air pollution is also caused by the private sector due to e.g. unsustainable modes of production. Apart from the transportation sectors, brick, cement, steel and sugar production are also highly polluting sectors.

2. *We need to decrease the impact of air pollution, Particularly to those groups most exposed and most at risk:*



People, and particularly those most exposed and most at risk, need to be aware of the link between air pollution and health, the risks they take and how to better protect themselves and those under their care by e.g. avoiding heavy exertion next to major roads, keeping children inside during peak pollution hours (morning and evening), using masks during peak hours etc, conditioning indoor environments for healthy air quality with help of air purifiers and indoor plants.



### III. Are we safe indoor?

Air pollution inside any house/building is usually more than the outdoor air pollution. Also we spend almost 90% time indoors increasing the exposure on pollutants that can cause severe health hazards. But unlike outdoor air, Indoor air can be controlled and treated with the help of Air Purifiers and Plants. We can grow our own fresh air to make sure that you breathe healthy and clean air.

Also if you can only fix the air of your sleeping time your body will be rested enough to fight the deadly pollution outdoor. Hence in this scenario where we cannot change much on the outdoor air, we can still fix our indoor air with right selection of air purifiers and plants. Most of the air purifiers available in Indian markets are harmful as they produce Ozone or UV and some of them are not designed for Indian conditions.

Awareness about the issue can save the life of thousands and there is still lot that we can do about our right to breathe.

