

# [Introduction: ranked amongst the top 10 worst](https://assignbuster.com/introduction-ranked-amongst-the-top-10-worst/)

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INTRODUCTION: Smog is a type of air pollution which is becoming a serious hazardnow. Smog consists of smoke and fog. The two types of smog include industrialand photochemical smog.

Photochemicalsmog was first described in the 1950s. Photochemical smog is a combinationof air pollutants which have been chemically altered into further toxiccompounds by exposure to sunlight. FORMATION: Smog beginswith certain primary pollutants which include nitrogen oxides reacting withtrace hydroxyl radicals and hydrocarbons. Photochemical smog formation involvessequence of reactions, all of which contains a free radical mechanism. Some ofthe irritants present in photochemical smog includes  alkyl nitrite; peroxyacetyl nitrate; nitrousacid; nitric acid, ammonium nitrate etc. EFFECTS: Smogconsists of substances which are very chemically reactive and cause irritationto humans  and other living things. They smellbad, destroy substances, cause respiratory problems and infections, andirritate the eyes and other mucous membranes.

CASE STUDY1PHOTOCHEMICAL SMOG INLAHOREPhotochemicalsmog is at present one of the burning issues around the globe and is becoming aserious hazard. Pakistan is also one of those countries in which air pollutionis high and some of its parts also experience the problem of photochemicalsmog. Lahore; an important city of Pakistan is experiencing this serious issueof smog for the past five years: in 2014 and is ranked amongst the top 10 worstcities for smog according to a Deutsche Welle report.

REASONS OF FORMATION:                         Lahore is asemi-industrial city and it contains many small and large-scale industrial units. According to World Bank study from November 2005 to January 2006, numerouscontributing reasons were responsible for the high particulate matter in theair such as coalcombustion (13pc), secondary particulate matter (30pc), exhaust from two-strokevehicles (8pc), diesel emissions (28 per cent), biomass burning (15pc), andindustrial sources (6pc). The biggest contributors werediesel and emissions from motorcycles and rickshaws which are responsible for36pc of the high particulate matter.

Even though a large component of thecarbon containing aerosols in Lahore originated from fossil fuel combustion, a majorpart was resulting from biomass burning. According to Dr. Adil Najam who holds the position of Dean in thePardee School of Global Studies at Boston University:” This is much more a case of pollution. We have had a doublewhammy because pollution, especially from vehicles, has gone up while trees andvegetation have steadily gone down. What we are seeing is the combined effectof these two dynamics coupled with the weather pattern,” he points out. EFFECTS ON EVERYDAY LIFE: Heavy smogcauses devastating effect on daily life.

It causes traffic to a halt onmotorways in the early office hours and after sunset due to dangerously lowvisibility. Risk of accidents has been increased. People suffers fromeye-irritation, coughing and asthma. CONTROLMEASURES THAT GOVERNMENT NEEDS TO TAKE: Undertakingpollution caused by vehicle is really a big task for authorities.

The number ofvehicles in Pakistan has increased from almost two million to 10. 6mn over the last20 years. The number of motorcycles and scooters increased more than 450pc, andmotor cars nearly 650pc. Industrial sites and factories such as brick kilns andsteel mills situated within city boundaries are also a causative factor.

The government can pursue assistance from thecourts for a solution. Activities like open-field burning of rice strawacross the border in the Indian Punjab region which increased smog in Lahore asreported by NASA were also observed. Ahmed Rafay Alam, an environmental lawyerstates that Pakistan can hold India answerable for the current smog but only ifthe government can prove its neighboring country is blamable.” If we can prove that crop burning in India has exacerbated smogon the Pakistani side, then under International Environmental Law, India can bemade liable to prevent this from happening again. But without adequate testingequipment, we can’t be sure and no policy can be set.” RECOMMENDATIONS TO OVERCOME THIS PROBLEM: Forsolutions to the current smog, the Lahore administration can take a good e.

g. from its neighboring country. When New Delhi faced poor air quality  the Air Quality Index value reached 999 on theindex (any value above 300+ is considered ‘ hazardous’) due to unconstrainedcrop burning and the use of firecrackers during Diwali; the localadministration in New Delhi took instant actions such as schools were closed toprevent children from being exposed to toxic air, the coal Thermal Power plantwas shut down, all construction and destruction work was banned and  burning trash at landfill sites was prohibited. Administration of Lahore can also follow these steps. Other long-standingsolutions can be installing air quality observing devices at various locationsin the city, moving heavy pollution causing industries outside the cityboundaries, implanting trees, sufficient public transport and sustainablemanagement of agricultural waste deposit can prove long-term solutions to smog. CONCLUSION: If theauthorities continue to oversee this situation, Lahore might face sameconsequences as did London.

The Great Smog of  London 1952 also known as The Big Smoke; whenthe city underwent  five days of smog whichcaused deaths of 4, 000 people (number of fatalities could have been as great as12, 000 according to upgraded figures) and 100, 000 were hospitalized. Hence, thisis the time we should realize that there is a dire need to overcome this andother environmental pollutions or else we shall soon be facing seriousconsequences.    CASE STUDY 2INDONESIA PHOTOCHEMICAL CASE STUDYCAUSES: Indonesia is also oneof those unfortunate countries which face many serious problems due to airpollution including photochemical smog. According to reports on 28th ofDecember 2015, around 19 people had died. All of the victims were from Sumatra andKalimantan, regions where farmers lit fire and carried other activities toclear land rapidly and economically. Fires were burnt at 1, 143 hot spots along theSumatran coast. Pollution levels varied between harmful and adequate in Riau provinceon Sumatra Island.

EFFECTSON POPULATION: Air quality tablereadings have been as high as 983 in the area (anything over 200 beingunhealthy). More than half a million Indonesians are suffering from respiratorydiseases due to the smog, mostly caused by the fires. People face difficultiesin doing everyday activities such as travelling. STEPSTAKEN BY AUTHORITIES: The Indonesian navy evacuated children and otherdefenseless inhabitants of haze-hit areas but the evacuations will not behelpful if authorities failed to provide care for those suffering from respiratoryailments. The photochemical smog outburst was the worst ever, worsened by exceptionallydry conditions caused by the El Nino weather phenomenon. The particles in thepollution greatly enhances the risk of cardiovascular and respiratory diseases andcancer and greater than three million people die prematurely each year from elongatedexposure to air pollution.

To tackle with the situation President Joko Widodo suspended a visit to America to return homeand go on a tour of the worst-hit areas of the country. The government had to spenda great amount of money and time to extinguish the fires to stop the smog. Seven officials from companies suspected to be behind the fires were arrested. 10billion rupiah can be fined to a company if found guilty of burning land, andmanagement faces upto10 years in jail.

CONCLUSION: The above case studyclearly indicates the serious consequences and harms that result from airpollution. In order to avoid these problems control measures should be taken atinternational level as well as state level such as avoiding the activities thatcan lead to smog formation for the betterment of our earth.