

One of the methods to control pollution problem is introduction of regulatory mechanisms, incentives and fines. In your opinion, how can we control the smog problem by using one of those methods? How would you implement a plan at a city level to mitigate the smog problem?

## INTRODUCTION:-

Smog is a problem that has gripped Pakistan and has taken its major cities as hostage. Smog occurs when chemical pollutants mainly from human activities are released into the air and chemically react in the presence of sunlight. Smog is a major cause of breathing related diseases such as asthma, lung cancer, sore throats and coughing etc.

Till date, Pakistan's major cities have been ranked as the world's most polluted cities with respect to Air Quality.

### Top 50 Polluted Cities

05) Lahore

34) Faisalabad

91) Karachi

(2023 - IQ Air Index)

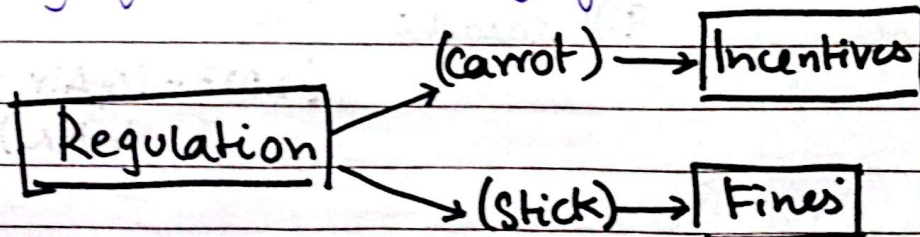
# METHODS TO CONTROL SMOG PROBLEM

Punjab is most affected by the smog problem. They have adopted the following approach:



According to the Punjab Environment Protection (Smog Prevention and Control) Rules 2023, the EPA is authorized to fine, conduct inspections, and seal entities which are contributing to the smog after due process.

However, if one is to analyze the core causes of smog in Punjab particularly in Lahore, then fines can only do so much. Incentives are necessary to encourage people from stopping the use of hard fuels, burning of stubble and driving of old vehicles.



A carrot-and-stick approach should be used

to encourage and disincentivize the public from indulging in smog causing activities.

## SMOG MITIGATION STRATEGY AT CITY LEVEL

### a) Congestion Charging in City Centres

Congestion Charging is a practice in which vehicular traffic is charged for using particular portions of the roads esp in city centres. This is a practice which is meant to dissuade people from using their cars and switch to public transit.

"London city has implemented this practice in 2003 and by 2008 found a 1-2% decrease in air pollution (NOx and NO<sub>2</sub>)" - (University of Lancaster, UK)

### (b) Promotion and Expansion of Mass Transit

Mass transit that is sustainably run on renewable energies can drastically cut the air pollution levels in the city.

Beijing led a campaign to make car ownership and single car journey unaffordable and used that money to provide subsidies on mass-transit.

### c) Incentivizing farmers not to burn stubble

India, as of last year, will start paying

Rs, 2500/- per acre to farmers in the Punjab Province, pursuant to a Supreme Court (decision), to not burn the stubble. <sup>suggestion</sup>

(Economic Times of India)

Similar practices can ensure that farmers are not forced to burn the stubble. Economic incentives rather than fines are a better way to counter this.

### d) Promotion of Electric Buses & Cars / Transport

Lahore's emission profile is given below:

Transport	83.15%
Industry	9.07%
Crop Burning/Agriculture	3.9%
Waste Burning	3.6%
Commercial	0.14%
Domestic	0.11%
Total	100%

(Urban Unit)

Promotion of Electric cars/buses and vehicles can put a dent in the smog problem.

## e) Afforestation campaigns to increase the Green Cover

Green areas and forests in particular acts as Carbon sink.

' Lahore lost around 70%

in Green cover from  
(2010 - 2020) '

(Ministry of Climate  
Change - Pak)

Increasing this cover is necessary to ensure a better breathing atmosphere of the city.

## f) Reducing Urban Sprawl & Promoting Mixed Use Development

Urban Sprawl, is a phenomenon when <sup>due to</sup> development the cities extends their boundaries/size. Pakistan's cities are facing a negative consequence of Urbanization - Urban Sprawl.

Promotion of Mixed-Use Development and vertical rather horizontal development is necessary to control the spread of the city.

## g) Incentivizing Industrial Units to Shift from Polluting Practices

To accommodate the industrial, tax breaks and

Incentives are necessary to encourage the industrialist to shift from polluting practices such as using of hard fuel (coke), plastics, high sulfur content fuels etc) to renewable fuels. Similarly, ensuring waste management practices is also necessary.

## h) Strict Ban on Open Waste Burning

Open waste burning is a practice that is, regrettably, prevalent in society. It is responsible for releasing toxic compounds such as  $\text{NO}_x$ ,  $\text{SO}_2$ ,  $\text{CO}$  and other harmful compounds.

Stringent action and monitoring of neighbourhoods must be done to deter those who indulge in this practice.

## CONCLUSIONS

Smog is a problem that was first noted in London and today due to urbanization and rapid industrialization spread across the entire world. To tackle it regulations must be that empower authorities to take action and disincentivize bad practices while incentivizing alternatives. Promotion of Transit and renewable fuelled vehicles is another step and spreading awareness regarding the side effects of smog is necessary to combat this threat.