

- Environmental Science -

Q.No. What is meant by Smog? Explain the main causes of smog in Punjab. Summarise the effect of key meteorological factors on dispersion of pollutants in the atmosphere

ANS.

① Introduction

Smog is a vast phenomenon, which can be understood through a thorough study. There are plethora of cases of smog formations in Punjab and burning the Agri-left over is one of them. Moreover, the weather change, seasons transformation stimulates the dispersion of pollutants in the atmosphere.

② Understanding Smog through different definitions

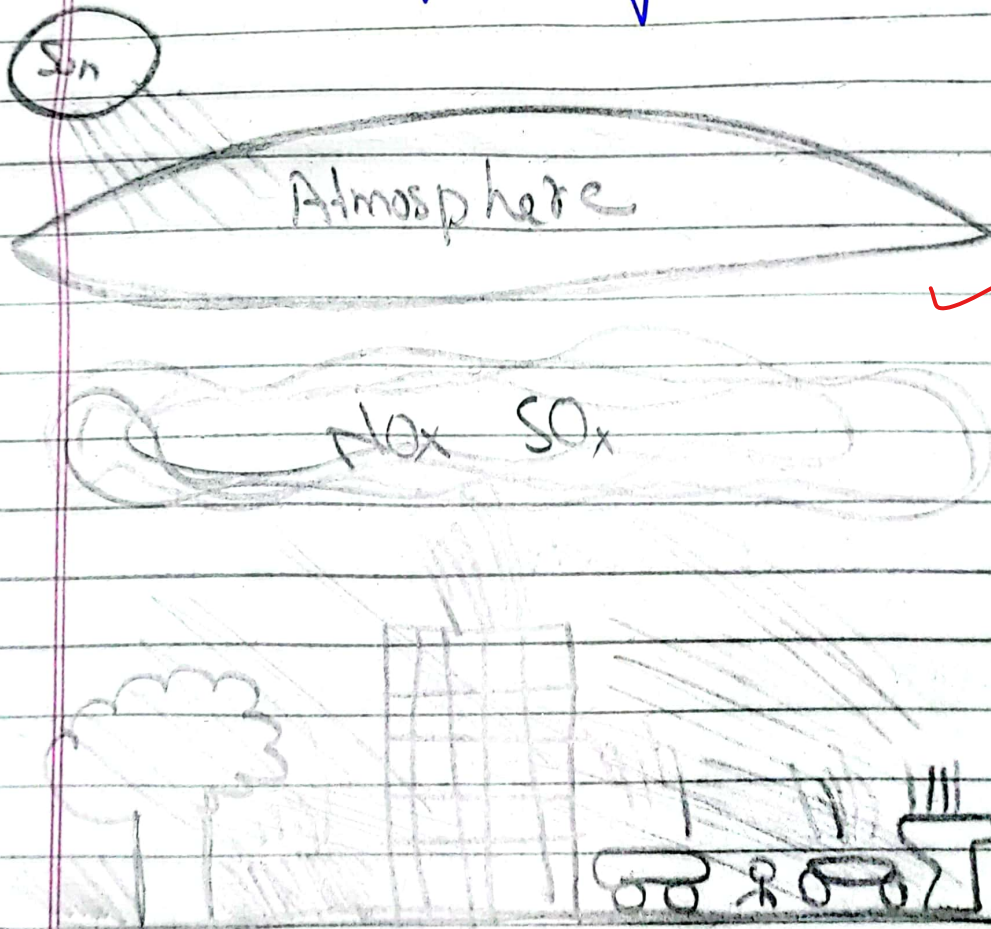
2.1 Smog As per Oxford Dictionary

This is a phenomenon, in which the pollutants remain dispersed in Atmosphere due to low temperature.

22 Smog as per Merriam Dictionary

Smog can be defined as, the merging of atmospheric pollutant with water vapours and causing the obscuring of objects present in a specific environment.

③ A Generalized Representation of Formation of Smog



Here, it can be ~~here~~ analyzed

Hits, because of low temperature the water vapours remains in the atmosphere and pollutants merge with them resulting in Smog formation.

④ Explaining the Main Causes of Smog in Punjab

4.1) Excessive Industrialization

After, Karachi the Punjab region is most industrialized zone in Pakistan. Such as Faisalabad, Lahore, the excessive industrialization have distorted the atmospheric health of region.

4.2) Unprecedented Urbanization

Similarly, Punjab is most populated region of Pakistan with more than 123 million people (7th Census). That is leading the province towards urbanization.

4.3) Burning of Agri-left over

In either Punjab (Indian and

Pakistan) the practice of burning the Agri - left over is years old and Agri is adding more pollutants to the atmosphere.

4.4) Rapid deforestation and Vehicle culture

The use of vehicle is increasing in Punjab due to rising population and the rapid deforestation is seen in the region. According to a report $\frac{1}{4}$ in the urban region is deforested.

4.5) Rising Population

As said earlier, Punjab is most populous province of Pakistan and its population is more than 20 million according to 7th Census. Which is triggering other environmental factors.

⑤ Table of Reports Regarding the Atmospheric Pollution and Smog

Through, the reports the atmospheric health of Punjab can be analyzed.

Source	Report
WHO	Lahore, Karachi and Rawalpindi worst affected by Atmospheric pollution
UNFCCC	Punjab's Air Quality has declined by 300
Pakistan Bureau of Statistics	Increased Chances of Lung Cancer to the Residents of Lahore

b) Key meteorological Factors on dispersion of pollutants in the atmosphere

61 - Variations in the Local Climate

According to Earth: A ~~Living Planet~~ variation in local climate either cold or hot affects the pollutants in Atmosphere. For example Photochemical Smog formation.

6.2 Change of Weather Patterns

Similarly, the weather pattern also depends on the availability of pollutants. Formation of Smog in ~~Summer~~ Winter is due to it.

6.3 Transformation of Seasons

The revolution of Earth defines the seasons change and the transition from one season to another also affects the dispersion of pollutants.

6.4- Axis Rotation of Earth especially in Summers

Similarly, the axis rotation of Earth, the time of Sun rise and sunset also affect the dispersion of pollutants.

⑦ Conclusion

In last, Smog is a wide phenomenon which needs a complete study. There are

multiple reasons of smog
from urban in Tokyo and
rising pollution and urbanization
is one of them. The change of
Earth's movements also affects
the dispersion of pollutants in
the atmosphere.

ans is satisfactory

give some 3 4 suggestions to control or mitigate the
effect too

content is average

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