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Climate Air Quality Status Associated With Anthropogenic Emission in Bikaner

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Abstract

Air pollution has become a major worry over past few years. At Present air pollution both –ambient outdoor) and household (indoor) –is the largest environmental risk to the habitats of any place. Air pollution is used as a marker for sustainable advancement. Air pollution level in metropolis is cited as an alarm for urban sustainable advancement. Originator of anthropogenic emissions of industry, power generation, transport, livestock and agricultural are modifying air quality. Of all the pollutants, fine particulate matter has the considerable consequence on human wellbeing. Particle pollution is made up of constituents like nitrates, sulphates, organic chemicals, metals, and soil or dust particles. Climate Air Quality Status Associated with Anthropogenic Emission in Bikaner city was accomplished by using elementary low cost adsorption technique. The result of the assessment will absolutely make citizens attentive towards the silent killer and help local administration, policy maker; funders and researchers identify health R&D priorities based on locals health demands. The conclusions of the research is a step to save environment as it may help make people awake of the matter that particulate matter pollution is an environmental health issue and thus guide in the advancement of strategies and action plans to reduce household and ambient air pollution danger .

Keywords: Air Pollution, Particulate Matter, Air Quality, National Ambient Air, Quality Standards.

Introduction

Air pollution has long been identified as a potentially devastating category of environmental pollution. In developing countries like India, a 'no care' attitude and total overlook along with ever-growing appeal over the years have made air pollution as a most frightening and risky. In recent years, various researches on health impacts due to air pollution have been Initiated in growing countries (Anonymous, 1980). The public health implications of the emission of CO, O3, toxicants and particulates are substantial (Davies, 1998, Utel. Warren and Sawyer, 1998). Among air pollutants, particulate matter (PM) is a ubiquitous and its exclusively a dominant issue due to its unfortunate health effects, Visibility reduction and soiling of buildings (Hamilton and Mansfield, 1991, Seinfeld, 1975; Williamson, 1973).

in the present paper, an attempt was made to show the overall ambient air quality in Bikaner city and its neighboring areas. The research area where the measurements took place is on the Bikaner city is located in the middle of the That desert and has a hot semi -arid climate (Köppen climate classification BSh) with very little rainfall and extreme temperatures. In summer t emperatures can exceed 45 °C, and during the winter they may dip below freezing.

The climate in Bikaner is described by important variations in temperature. In the summer's it is extremely hot when the temperatures lie in the range of 28–53.5 °C (82.4–128.3 °F). In the winter, it is adequately cold with temperatures lying in the range of −4 –23.2 °C (24.8–73.8 °F).[11] Annual rainfall is in the range of 260–440 millimeters (10–17 in).[1 The environmental impact of major industries like Cotton industry, Food industry, thermal power plant are studied.

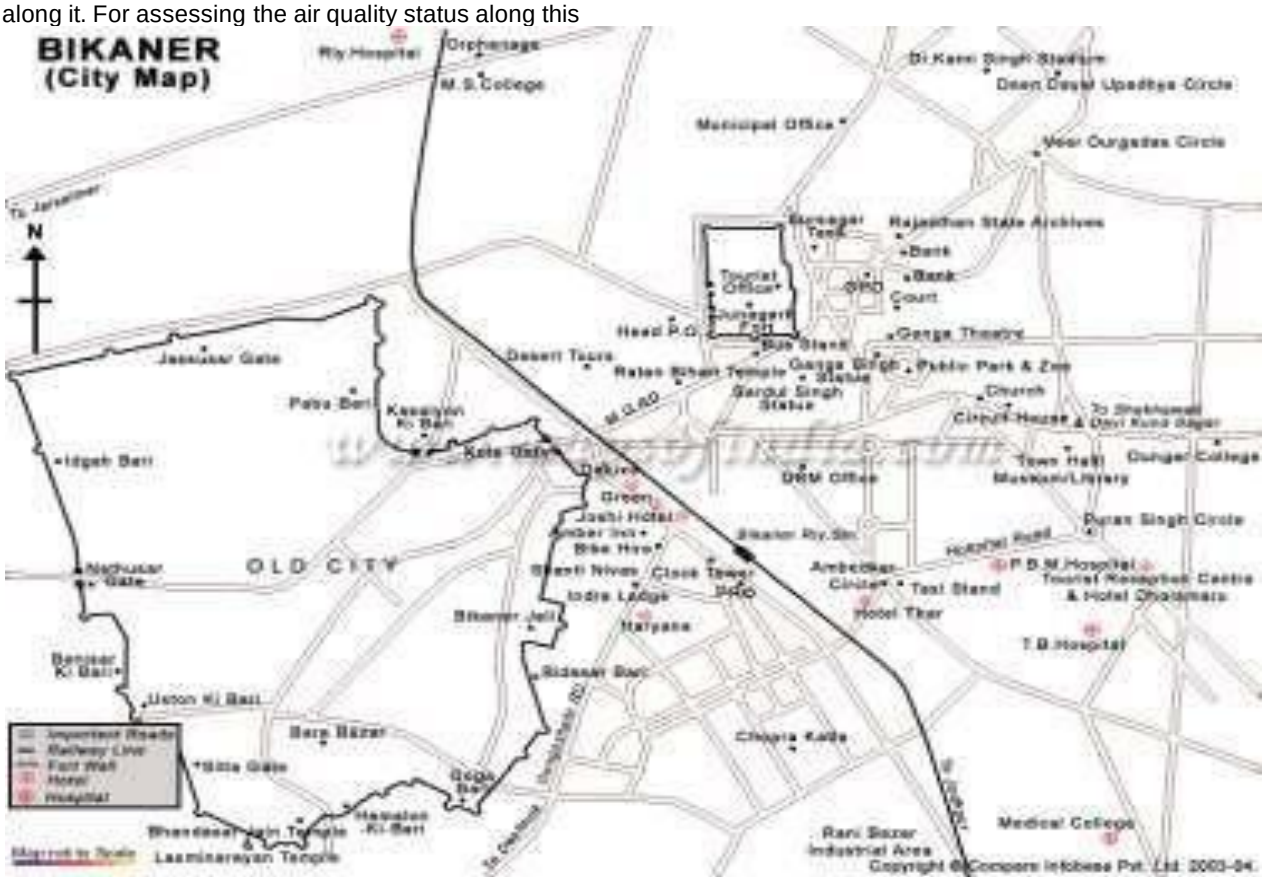
Objectives of the study

1. To study about the various causes of Air Pollution
2. Findings of the most polluted areas

Study Areas and Sampling Locations

For the recent research study in Bikaner, a representative range along a road from Karni Industrial area to Shivbari Circle was selected. The selection of this road is made taking care of the geography and importance

of the road in the town and also has a range of anthropogenic activities such as th e changing density of road traffic, industries, , residential, urban and agricultural activities taking place on the road. Amidst the discrete main roads in the District direct road has the highest concentration of these activities along it. For assessing the air quality status along this road, the sampling sites at every 3 km distance onwards the road and a total of 14 sites were selected as shown in figure. The figure shows leading industries in the proximity of this heavily trafficked road include readymade mills, textile mills, brick mills a power plant, and a refinery.



Methodology

Suspended Particulate Matter was collected using low cost adsorption technique.14 samples were prepared using filter paper and Vaseline. A filter paper of normal size was taken and a layer of Vaseline was applied on it. Then this process was followed for all 13 samples and all the samples were weighed under chemical balance. Then all samples were kept placed at the selected 14 spots for 24 hours.

After the complete duration the samples were collected and weighed again at the laboratory .the difference was calculated and given a graphical representation.

Conclusion

The Air Quality index (AQI)is a grading scale for reporting the ambient air pollution status monitored at particular Location during a certain monitoring period(e.g. One,8 or 24hr).Main Purpose of AQI are to report and caution the public about the risk of exposure to daily pollution levels and to implement mandatory measures (Gurjar et al,2008). It is concluded from the observation at different monitoring stations, SPM was found to be higher in most of the location of the city. The area near vicity of the industries are moderately air polluted. Air pollution in the core city was found to be a little due to continuous vehicular emission . In order to control the pollution load, green plantation is a must as much as possible In the rural and the urban areas which are far away from industrial site, light air pollution has been observed

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