

REVIEW OF ECONOMIC IMPACT OF POLLUTION ON TOURISM IN DELHI

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Abstract:

Delhi is a thriving cosmopolitan metro, showcasing an ancient and a rapidly modernising society. It is a major commercial hub, dotted with countless tourist attractions and places of interest. Every year, tourism in Delhi attracts thousands of visitors from all across the world who come to explore the various colourful facets of this historic city. However with ever increasing population and number of vehicles, the pollution in Delhi is at all time high. The air quality in Delhi, according to WHO survey of 1600 world cities is the worst of any major city in the world. The poor quality of air damages irreversibly the lungs of 50% of all children. In November 2017 in an event known as “Great Smog of Delhi” the air pollution spiked far beyond accepted levels. Levels of PM 2.5 and PM 10 particulate matter hit 999 microgram per cubic meter while the safe limits for those pollutants are 60 and 100 respectively. This degraded air quality of has significantly affected the number of tourist visiting Delhi during the peak season. According to ASSOCHAM, the toxic smog in national capital region is affecting the economy in sectors like tourism, transport, automobile and real estate. On interacting with 350 tour operators ASSOCHAM revealed that foreign tourist are opting for cleaner destinations instead of Delhi even during the peak tourist season.

Introduction:

Delhi “The Multicultural Cosmopolitan Metro”

Delhi is being a developing state and emerging economy has ancient cultural heritage attracts a huge number of tourist, The Delhi city has a glorious past as the seat of empires and magnificent monuments and also rich and diverse cultures. Delhi city is sprinkled with dazzling gems: captivating ancient monuments, fascinating museums and art galleries, architectural wonders, a vivacious performing-arts scene, fabulous eating places and bustling markets. With its rich and diverse cultural heritage, Delhi is also used as a gateway for travelling to cities of India. There are plans to make Delhi an environmental & eco friendly tourism and culture destination. The schemes of Tourism Department have been implemented by the DTTDC (Delhi Tourism and transportation Development Corporation), an undertaking of the Government of National Capital Territory of Delhi incorporated in 1975 to promote tourism in Delhi, “Delhi as tourism region”. Delhi has excellent blend of rich cultural heritage, modern lifestyle and is also the venue for important events related to business, sports and entertainment accompanied with world class airport facilities, strategic position, attractions and growing economy which led to an increase in tourism.

Population in Delhi

Delhi is the fifth most populous city in the world and the largest city in India area-wise. Delhi has an estimated 2016 population of 18.6 million. Delhi has a rapidly growing population, which was just 16.7 million in 2011. The city has a population density of 29,259.12 people per square mile, which is one of the highest in the world. Delhi is one of the fastest growing cities in the world, reaching over 18 million this year from just 400,000 in 1901. In 2001 alone, its population increased by 215,000 due to natural growth and 285,000 through migration. By 2020, Delhi is expected to be conurbation after Tokyo and Mumbai. Delhi struggles with its rapid growth and is facing substantial pressure to improve commercial and residential infrastructure

Vehicles in Delhi

The number of registered vehicles in the National Capital has crossed the one-crore mark, amid growing concerns over rising pollution levels and poor traffic conditions in the city. Data accessed from the Transport Department of Delhi government puts the total number of registered vehicles at 1,05,67,712 . There are 31,72,842 registered cars in the city. The biggest chunk of the registered vehicles — 66,48,730 — in the city is, however, motorcycles and scooters that are known as major air polluters due to poor emission standards. Other major categories of registered vehicles in the National Capital include goods carriers (2,25,438), motor cab (1,18,424), moped (1,16,092), passenger three-wheelers (1,06,082), goods three-wheelers (68,692), buses (35,332), e-rickshaws (31,555) and maxi cabs (30,207), the data said. Several reports suggest that vehicular pollution is one of the major contributors to air pollution in the National Capital. Concerned over the increasing level of air pollution in Delhi, the National Green Tribunal had on November 26, 2014 barred all vehicles – private cars, bikes, commercial vehicles, buses and trucks – over 15 years old from plying in the Capital. In its recent audit study, EPCA (Environmental Pollution - Prevention and Control) had also found that Delhi has lakhs of vehicles plying without the mandatory ‘pollution under control’ certificates. The blatant violations, that potentially imperil the health of millions, have put the spotlight on around 970 centres in the city, that are certified to check the emission content of around 70 lakh vehicles in the city, the report had stated. PTI

Pollution in Delhi

Air pollution in India is reported to cause 527, 700 deaths a year. According to the WHO, the capital city of New Delhi is one of the top ten most polluted cities in the world. Declining regional air quality means visibility has also decreased dramatically. At the IGI airport, Delhi, the 700 flights on an average depart and arrive daily with the maximum numbers of flights in night and morning hours during winter, when the chances of dense pollutants are also high. Due to which the susceptible visibility degradation may be there. The thick blanket of pollutants remains till afternoon and sometimes shows no sign of abating for a few consecutive days which decreases visibility and affects aviation severely at the IGI airport. During winter season, several flights are cancelled and diverted due to visibility impairment. The visibility impairment for a couple of hours can delay or stop air traffic both locally and nationwide, causing substantial monetary loss. Most of activity in the tourism is based on sightseeing and visiting places. Unfortunately, many visitors are not able to see the spectacular vistas they expect. Generally it is found that high concentration of pollutants decreases the visibility, which is an

important aspect of ambient air quality. Visibility impairment is probably the most easily recognized effect of air pollution and it is caused by scattering and absorption of light by particles and gases in air. Visibility degradation is the loss of contrast between the object and the background and arises from the attenuation of light by fine particles and gaseous pollution (Trijonis 1982). Atmospheric pollution due to coal combustion, vehicle exhaust, and industry, the primary emission sources of particles over urban area, was considered to be the main cause of visibility degradation (Chanand Yao, 2008).

Pollution effects

According to WHO, Delhi the capital of India was named as the worst for PM_{2.5} particles out of 1600 cities around the world with the value of 153 micrograms per cubic metre. The study concerning PM_{2.5} and PM₁₀ along with the humidity levels was conducted in the early winter of 2015 to June 2016 in and around the areas of Delhi. PM refers to the particulate matter consisting of solid particles and liquid droplets in the air. It is formed from the chemical reaction in the atmosphere and through fuel combustion like motor vehicles, industrial facilities, residential fireplaces wood stoves and agricultural burning. Air quality significantly affects the lives of people. Living in a pollution-free environment signifies a better quality of life, but do we really know how air pollution affects us and which parts of our bodies are damaged by each kind of polluting particle? Air pollution causes around seven million deaths a year worldwide. Growth and concentration of the population in cities, as well as the way in which we consume energy in urban areas through transport or heating and air conditioning systems, among others, result in the emission of huge quantities of gases that are harmful to our health.

Economic Effect on tourism

Tourism world over has been recognized as a major contributor of economy. It holds 4th largest industry contributing to world's economy and for a developing nation like India tourism is one of the major service sectors, growing with leaps and bounds by every passing year and has risen in its contribution from 2.2% (2014) to estimated 7.6% (2015) to nation's GDP. Tourism upholds both negative and positive impact on nation's economy. The ill effects of it are addition of pollution, overutilization of resources like energy and food, undesirable social and cultural changes, adverse impact on environment and ecology, depletion of valuable resources like fuel and water, threat to the wildlife owing to the disturbances in their habitats, degradation of land, addition of solid and sewage waste etc and over all is that it coasts the health of localities or indigenous people along with visitors. Increasing tourism means increasing air pollution which gives us instantaneous repercussions like poor visibility leading to more accidents, poor productivity of plants, higher concentration of PM_{2.5} hampers respiratory and circulatory efficiencies of animals, higher troposphere ozone, a strong oxidizing agent, decline plants productivity along with their premature deaths

Delhi's tourism season which is completely, could be severely hit owing to the deadly smog in the capital city, according to an ASSOCHAM report. The toxic smog in National Capital Region encompassing not only Noida, Gurgaon and Faridabad but also right up to Ludhiana, Meerut, Panipat, Bhiwadi and Rohtak is likely to affect the economy in sectors like tourism, transport, automobile and real estate. November and December are the peak

months for foreign travellers to visit India, as majority of them opt for the Golden Triangle tourist circuit - Delhi, Agra, and Jaipur. ASSOCHAM interacted with 350 tour operators who revealed that international tourists are quite particular about their health and safety and with such negative developments Delhi is bound to drop off from the map of international tourists who will pick 'cleaner' South Asian destinations. The rising pollution levels will keep foreigners away, as they are too particular about weather and climate, including their safety. Currently no major cancellation has been recorded as money is paid in advance. But during the peak tourist season, foreigners who are still in the planning stage will become sceptical about visiting Delhi, according to the ASSOCHAM paper. Even domestic tourists are avoiding Delhi. The air pollution in Delhi-NCR is not just devastating the environment but harmful amount of gases, dust, fumes and odour are causing breathing problems to people. Along with the tourism, the transportation linked to the tourism, would also take a hit if investment and tourists traffic gets a setback. The transportation is one of the key contributors to the national economy in the services sector. Both transportation and tourism are highly employment-oriented and jobs may be a casualty of the pollution, the ASSOCHAM paper concluded.

General mitigation practices:

- Use dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust and during earthmoving activities, prior to clearing, excavating, backfilling, compacting, or grading, and during blasting.
- Post and enforce speed limits to reduce airborne fugitive dust caused by vehicular traffic.
- Revegetate disturbed areas as soon as possible after disturbance. (This should include interim revegetation along road beds, once heavy construction is completed.)
- Conduct slash burning, if necessary, in compliance with open burning permit requirements.
- Cover construction materials and stockpiled soils if they are a source of fugitive dust.
- Train workers to handle construction materials and debris during construction and dismantlement to reduce fugitive emissions.
- Keep soil moist while loading into dump trucks.
- Keep soil loads below the freeboard of the truck.
- Minimize drop heights when loaders dump soil into trucks.
- Tighten gate seals on dump trucks.
- Cover dump trucks before travelling on public roads.

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