FACTSHEET OF INDUSTRIAL EMISSIONS IN KOTA

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FACT SHEET

ABOUT KOTA

Kota, the third-most populated district in Rajasthan, was designated a non-attainment city under the National Clean Air Programme (NCAP) initiated by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 2019. The major sources of air pollution in Kota are road dust, vehicular emissions, construction and demolition (C&D) activities, and industrial emissions.

Kota city is renowned for the eponymously named Kota Stone. It is a type of limestone extensively used in construction. The district hosts numerous masonry stone mines and limestone mines, along with stone crushers, contributing to fugitive emissions. In terms of stack emissions, the major polluting industrial sectors in Kota are chemicals industries, engineering and fabrication, and food processing.

Additionally, Kota has a substantial number of stone cutting industries. However, the stone cutting sector is not directly related to air pollution. The stone slurry generated from this sector causes air pollution when it dries. Its unscientific disposal along roadsides and leakage during transportation lead to air pollution issues.

INDUSTRIAL AREAS IN KOTA

The major industrial areas in Kota are Indraprastha Industrial Area, Ranpur Industrial Area, Nanta Industrial Area and Kudayala Industrial Area.

- **Indraprastha Industrial Area:** Located inside Kota city, this industrial area spans 1,006.12 acres. The food processing and chemical sectors consume the most fuel and emit the most fugitive emissions. The engineering and fabrication sector is the largest in terms of number of industries.
- **Ranpur Industrial Area:** The food processing and chemical sectors consume the most fuel and emit the most fugitive emissions.
- **Nanta Industrial Area:** Stone crushers and fly ash brick manufacturing units dominate this industrial area. They mostly emit fugitive emissions. This industrial area has been strategically developed to use fly ash generated from the Kota Super Thermal Power Station (KSTPS), located in the vicinity of the city.
- **Kudayala Industrial Area:** Located in the Ram Ganj Mandi Tehsil of Kota, this industrial area has around 100 stone cutting units.

MAJOR AIR POLLUTING SECTORS IN KOTA

Emissions from industrial areas in Kota significantly contribute to the city's overall air pollution. As per data from the Rajasthan State Pollution Control Board (RSPCB), there are approximately 350 air polluting industries (red and orange category) in Kota district. These include 100 mines, 42 stone crusher units, 35 chemical-based units, ten hazardous waste processing units, six rice mills, three fertilizer units and two cement plants.

1. **Fugitive emissions from industrial operations:** Even though they are not that many in number, stone crushers generate disproportionately large amounts of fugitive emissions.
2. **Stack emissions from industrial operations:** In 2021, the Centre for Science and Environment (CSE) conducted a study to assess industrial air pollution in major districts of Rajasthan. According to the study, Kota district had approximately 703 fuel-consuming industries. The two major fuels used in Kota were various agrofuels (70,122 tonnes/annum) and wood (25,035 tonnes/annum). Food processing industries were the highest consumers of agrofuels whereas the

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chemical sector was the largest consumer of wood. Diesel consumption (3,568 tonnes/annum) by DG sets installed by industries was another major air pollution concern. However, as per RSPCB, currently almost all food processing units have shifted to biomass and some industries in Indraprastha Industrial Area which were using wood have now shifted to natural gas.

3. **Emissions from open dumping and burning of industrial waste:** Other than 350 air polluting industries in Kota, there are around 200 stone cutting units. Although the stone cutting sector does not produce fugitive emissions during the process, unscientific disposal of stone slurry along roadsides and in open areas causes air pollution when the slurry dries and becomes airborne due to moving vehicles.

ISSUES AND CHALLENGES

1. **Fugitive emissions from stone crusher units:** Stone crushers have been identified as one of the major sources of fugitive emissions, contributing to environmental concerns. Very few units follow good practices in this sector. Fugitive emissions through semi-covered/uncovered stone crushers add immensely to the pollution load.
2. **Stack emissions from fuel-consuming industries:** Even though a significant number of food processing units have shifted to biomass, many of them are still facing challenges in meeting the prescribed PM emission norms.
3. **Lack of solid waste management facilities:** During the survey conducted by CSE in 2021, indiscriminate waste dumping came across as a major issue in industrial areas of Kota. The reason for inadequate disposal of industrial solid waste is lack of solid waste management facilities in industrial areas.
4. **Unavailability of piped natural gas (PNG) in industrial areas:** PNG infrastructure is unavailable other than in some parts of Indraprastha Industrial Area.

CSE's proposed action plan for abatement of industrial air pollution in Kota

Issue	Actions
Fugitive emissions from stone crusher units	Ensure that all stone crusher units strictly follow the guidelines provided by RSPCB for their sector.
	Ensuring the installation of pollution control equipment in all stone crushers as per the guidelines.
	Do not grant or renew consent to operate for stone crushers without compliance with the prescribed guidelines.
Fugitive emissions from food processing units (Flour/ dal mills, spice grinding and grain cleaning)	A study should be commissioned to understand the fugitive dust issues and good practices in flour/dal mills, spice grinding and grain cleaning industries. These are presently in significant numbers in Ranpur and Indraprastha industrial areas.
Non-availability of PNG in industrial areas	A study should be initiated to understand the feasibility and timeline for bringing PNG to industrial areas of Kota. Based on the feasibility study, a time-bound plan should be prepared to make industries switch to natural gas.
Dumping and burning of industrial waste	Ensure every industry segregates their waste at source before passing it on to the collection body.
	RIICO should provide a transport facility for door-to-door waste collection. Waste collection should also be done in a segregated manner.
	RIICO should develop a common waste storage site with a proper boundary and sperate areas for different types of wastes.
	There should be a provision for direct transfer of industrial waste which has the potential for recycling/reuse to registered vendors/industries for its utilization in different applications.
Utilization of stone slurry powder in sectors like cement, tile manufacturing and putti making	Explore the potential for utilizing stone slurry. The slurry produced by stone cutting industries should be collected and transported for utilization in sectors such as cement plants for gypsum production, tile manufacturing and putty making.

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