



Air, Water & Noise Pollution in Jalna City

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Introduction:

Pollution has become a very common yet serious issue in today's world. It has been there in different forms since a long time even before human evolution such as volcanic eruptions, wildfire which lead to various photochemical reactions in the atmosphere. The current concern is that it is rising day by day due to various resources of pollutants. And, one of the main pollutants are humans and man-made machines. It is right to say that pollution is damaging the mother earth severely and we, humans, should play our part to prevent it from happening. Pollution is a serious environmental issue that occurs when harmful substances contaminate the air, water, or soil. It can be caused by a variety of factors, including human activities, natural events, and technological progress.

Kinds of Pollution:

There are mainly three kinds of pollution - 1) Air Pollution, 2) Water Pollution, and 3) Soil Pollution. Air Pollution occurs due to the presence of harmful gases and substances in the air. It is due to vehicle emission, dust and dirt, poisonous gasses from the factories etc. To reduce air pollution, we should use carpooling or public transport rather than using our private mode of transportation whose harmful gas emission only adds to the problem, we should also actively avoid burning trash or other materials etc. Water Pollution happens when toxic substances get mixed in various water bodies such as lakes, oceans, rivers etc. Here toxic substances refer to the Chemical fertilizer, Industrial waste, Sewage and wastewater, Mining activities, Marine dumping etc. Soil Pollution. Soil pollution depicts the contamination of soil due to the presence of toxic substances due to Excessive use of fertilisers and pesticides, deforestation, industrial waste etc. To maintain the soil's fertility, the government must limit the usage of fertilizers and plant more trees. There are a few other pollutants causing pollution apart from the aforementioned ones, such as radioactive pollution. This is one of the rarer types of pollution. It occurs due to the presence of radioactive substances such as the presence of nuclear waste in air, solids, liquids or any other place.

Objectives:

The present study has been undertaken with the following specific objectives:

1. To study the air and water pollution level in the city.
2. To find out the causes of pollution in the city.
3. To suggest remedies to reduce the pollution level.

Database and Methodology :

This research paper is based on both primary and secondary sources data i.e. pollution control board, air & water sample examination report. Both statistics have been considered and analysed with simple statistical techniques.

Analysis :

Air Pollution:

The Maharashtra Industrial Development Corporation (MIDC) area of Jalna is more responsible for the air pollution in Jalna city. Except south side, the city is surrounded by MIDC area and other related industries. The main industrial area in the city is located in the west direction. So the city is almost surrounded by industrial pollution, i.e. Air, noise & water. So it directly affects on the health of the people of the Jalna city and surrounding area. With the help of survey carried out, researcher has tried to put the facts regarding air pollution in Table 1

Table 1
Air Pollution Levels at Different Locations in Jalna City

Location	Suspended Particulates (Micro Grams/ M ³)	Sulphur Dioxide (Micro Grams/ M ³)	Nitrogen Oxide (Micro Grams/ M ³)
Dhawaleshwar (Bhokardan Road)	87	09	23
I.T.I. (Aurangabad Road)	185	132	126
Indewadi (Ambad Road)	64	18	26
D-Mart (Mantha Road)	51	13	20
Kanhaiyanagar (Deulgaonraja Road)	92	24	28
Mama Chowk (CBD Area of City)	124	32	39

Source : Environment Profile, Jalna, Maharashtra Pollution Control Board & Sample report.

Table 1 shows that, suspended particles are found in large number in the area of I.T.I. (Aurangabad Road), Mama Chowk (CBD Area) whereas Minimum suspended particles are found D-Mart (Mantha Road), Indewadi (Ambad Road). Level of sulphur dioxide in the air is found very high in I.T.I. (Aurangabad Road) and remaining selected area shows low sulphur dioxide. I.T.I. (Aurangabad Road) area shows highest level of Nitrogen oxide i.e. 126 whereas D-Mart (Mantha Road) area has found least level of nitrogen oxide in the air. It means I.T.I. area (Aurangabad Road) is the most polluted area in Jalna city as compared to CBD and colonies in the city whereas D-Mart (Mantha Road) shows least pollution level.

Water Pollution Level :

Water Pollution happens when toxic substances get mixed in various water bodies such as lakes, oceans, rivers etc. Here toxic substances refer to the Chemical fertilizer, Industrial waste, Sewage and wastewater, Mining activities, Marine dumping etc. continuous degradation and pollution of major water bodies are also causing deadly diseases to humans and animals. It is also affecting marine life. Since water is consumed all the time, it's pollution is causing a lot of deadly diseases.

The water pollution level in the city has been depicted in table 2.

Table 2
Water Pollution Level from Tube Wells in Jalna City

Parameters	Dhawaleshwar (Bhokardan Road)	I.T.I. (Aurangabad Road)	Indewadi (Ambad Road)	D-Mart (Mantha Road)	Kanhaiyanagar (Deulgaonraja Road)	Mama Chowk (CBD Area of City)
PH	7.2	7.4	8.0	6.8	7.4	7.9
Alkalinity	350	324	242	261	220	190
Chlorides	140	151	95	108	155	137
Hardness	310	367	322	290	372	386
Dissolved Solids	790	801	690	702	682	824
COD	6	5	4	3	5	7
Sulphate	115	95	96	98	110	112
Nitrate	162	134	145	150	122	164

Source: Environment Profile & Water Sample Report

Table 2 shows the status of parameters in water from tube wells of various places from the city selected for study. It is found that, Indewadi (Ambad Road) area has the highest PH value (8.0) whereas the least value is found at D-Mart (Mantha Road) (6.8). Alkanity of water is very high (350) in Dhawaleshwar area whereas lowest value (190) has been observed in

Mama Chowk. In I.T.I. area the level of chlorides in water was 151 and in Indewadi area the level of chloride in water is only 95. The hardness and dissolved solids in water is found highest in Mama Chowk area whereas the lowest hardness and dissolved solids found in Kanhaiyanagar and Indewadi area. The parameter, sulphate, is found maximum in the water of Dhawaleshwar area whereas it found lowest in I.T.I. area. The value of nitrate is found higher at Mama chowk and it is lowest in Kanhaiyanagar area.

Noise Pollution:

noise pollution, unwanted or excessive sound that can have deleterious effects on human health, wildlife, and environmental quality. Noise pollution is commonly generated inside many industrial facilities and some other workplaces, but it also comes from highway, railway, and airplane traffic and from outdoor construction activities. Industrial, commercial activities public activities like processions, festivals, political meetings are responsible for noise pollution. The level of noise pollution prevalent in Jalna city is given in table 3.

Table 3
Noise Pollution in Jalna City

Sr. No	Location	Types	Day Time Noise in DB (6.00 am to 10.00 pm)	Night Time Noise in DB (10.00 pm to 06.00 am)
1	Dhawaleshwar (Bhokardan Road)	Residential	80.47	56.28
2	I.T.I. (Aurangabad Road)	Industrial	88.39	53.81
3	Indewadi (Ambad Road)	Residential	81.54	57.46
4	D-Mart (Mantha Road)	Commercial	72.14	42.68
5	Kanhaiyanagar (Deulgaonraja Road)	Residential	74.63	46.89
6	Mama Chowk (CBD Area of City)	Commercial	84.22	42.57

Source : Environment Profile & Sample Report

The Jalna city is famous for industrial development, seeds industries. Many steel industries are located in the Jalna city MIDC. There are also some areas in the city whereas noise pollution are generally observed, i.e. Mama Chowk, Sindhi Bazar, Mantha Chowfully, Aurangabad Chowfully, Shivaji Chowk, Kadrabad.

Table 3 shows that, It is found that noise level of Jalna city ranges from 42.68 db to 88.39 db. At Dhawaleshwar (Bhokardan Road) area, the noise is 80.47 DB at day time and 56.28 db at night time, I.T.I. (Aurangabad Road) recorded 88.39 DB at Day Time and 53.81 DB at



Night Time, Indewadi (Ambad Road) recorded 81.54 DB at Day Time and 57.46 DB at Night Time, D-Mart (Mantha Road) recorded 72.14 DB at Day Time and 42.68 DB at Night Time, Kanhaiyanagar (Deulgaonraja Road) recorded 74.63 DB at Day Time 46.89 DB at Night Time and at Mama Chowk (CBD Area of City) recorded 84.22 Day Time and 42.57 DB at Night Time.

Conclusions and Suggestions:

The study shows that, the pollution level in the city is constantly increasing. All types of pollution like air pollution, water pollution, land pollution, noise pollution is observed in the city. Since the city is surrounded by the industrial area, the air becomes polluted which the people used for breathing. However, Traffic and vehicles also creates air pollution and noise pollution. The inadequate facilities to keep city clean are leading land pollution. The current trend pollution in the city is dangerous for the health of the citizens in the city. There is an urgent need to pay the attention towards the problems. It is necessary to make awareness in the citizen regarding proper use of vehicles. The government or the local civic body should regularly checkup the industries for pollution and implement the rules strictly regarding pollution. Plantation programme should be undertaken by individual, NGO and government bodies in order to increase greenery in the city.

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