



CLIMATE CHANGE AND GLOBAL WARMING: ITS IMPACT ON GAYA DISTRICT

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ABSTRACT:

Climate is an important factor of change in the society. Gaya district of Bihar is well known globally because of Bodhi Gaya and Mahabodhi temple. But nowadays air pollution is a major problem of the Gaya City. Due to such air pollution, environmental condition of the area is degrading day by day, primarily owing to heavy vehicles. For example, about 2000 Auto rickshaw of diesel comprises a major source of air pollution in the City. A large number of disease like asthma, skin problems, heart diseases are resultants of inhaling such polluted air. Gaya air quality index is very critical. The major source of Air pollution of Gaya city is because of motor vehical, use of coal for Cremation in Bisunpath, open sewage drainage, open garbage etc. Gaya air quality index is harmful for health which is evident from the report of Central pollution Control board data for nine days. The data shows moderate pollution. Its impact is seen in increasing patients of asthma and heart disease. A large number of skin disease and allergy disease is also increasing rapidly. Good air quality is 0-50. Bihar state pollution Control Board is working on Swachta Mission, Vehicle pollution. We have to come forward to control this pollution because without public participation it is not possible. When the people (public) will actively participate, only then this pollution can be checked. We have to inspire the people to do air purifier plantation in every householder in city. Diesel tempo will have to be banned. Coal burn, wood burn should also be stopped.

KEYWORDS:

AIR POLLUTION IN GAYA CITY.

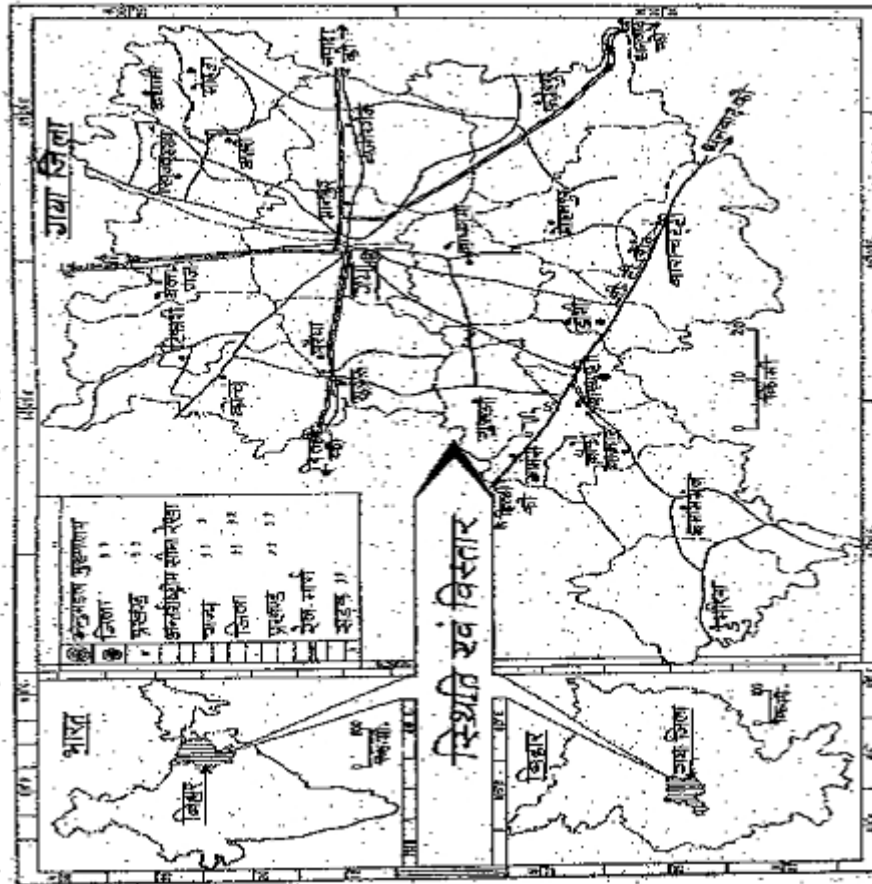
INTRODUCTION:-

Climate is an important factor of change in the society. India is Known as country of farmer. Our Agriculture is depends on climate. Agriculture comes in primery activities. Secndry and tertioiry activities found in Urban area. Urbanization has been the result of occupation and civilization. The history of urbanization in Gaya is very old. A few urban centres like Rajgir and Nalanda earlier developed as educational nucleus as like Gaya and Telhara Gaya district of Bihar is well known globally because of Bodhgaya Mahabodhi temple. Bodhgaya Land is known as Land of Enlightenment. The Bodhi tree (peepal) under which the Lord Buddha is believed to have Meditated and attained enlightenment is locater within this temple complex.

Emperor Ashoka built the first temple near Bodhi tree during the 3rd Century BCE, almost 300Years after Buddha's period (566-486 B.C.E). But nowadays air pollution is a major problem of the Gaya city. Due to such air pollution. Enviromental condition of the area is degrading day by day, Primerily owing to heavy Vehicles. Water pollution and noise pollution is also a problem of Gaya.

AREA OF STUDY:- Gaya District is situated beside falgu River. It is an important district of Bihar. Its second largest District of Bihar. It was officially established on 3 october 1865. The district has a common boundry with the state of Jharkhand to the south. Its total area is about 4976 km². It has 24 Blocks and 4 sub-division. According to census 2011, there is 4391418 population and density of 883 Person/km². The latitude of Gaya is 24^o 72'13"N and longitude is 84^o 58'54".

LOCATION MAP OF GAYA



OBJECTIVE OF STUDY:- The objective of the present paper is to determine the impact of Gaya District environmental. The present paper has following objectives :-

1. To find out causes of pollution and different types of pollution in Gaya.
2. To find out the effects of pollution on the peoples of Gaya District.
3. To evaluate the present situation of pollution of Gaya.
4. To suggest proposals for improve in environment of Gaya.
5. Pollution effects on climate change and global warming.

METHODOLOGY:- The study is based on primary and secondary data, Print of electronic media, Observations and intensive library work. The paper is based on empirical observations and detailed Micro level survey conducted by the researcher with the half of question and interview schedule filled by individual respondents. Secondary data and relevant information have also been

obtained from different series of census of india. There is taken a help of hospitals and Doctors.

SELECTED PARAMETERS:-

- Impact on Environment of stone Mining
- Causes of pollution
- Excessive of Diesel and petrol vehicales
- Use of coal for cremation in Bishunpath
- Open sewage drainage, Garbage etc.
- Impact of climate change and Global warming.

IMPACT ON ENVIRONMENT OF STONE MINING:-

The large scale stone mining is in Gaya District. Mining degrade the land and also environment. Many peoples working on the land are ignorant of the environmental impact of various mining activities. They are affected by air pollution. They are not aware of the techniques which are best suitable for the environment.

CAUSES OF POLLUTION:- According to a Report Dr. Faizur Ahmad on 23 Feb. 2019, Gaya is world's fourth most polluted city. Dr. Faizur Ahmad of the magadh medical Hospital has seen the people of Gaya suffer successive bouts of whopping cough, sneezing, itching, eye problems along with several types of allergy.



The major sources of Air pollution of Gaya city is because of motor vehical, use of coal and wood for cremation in Bishunpath, open sewage drainage, open garbage etc. These factor increase CO_2 , carbonmonoxide, methan, sulfur

dioxide (SO_2) Gaya Air Quality Index (AQI) is very critical. It is because of mining Dust ; Road Dust, Old cars, Traffic etc. We can see the report of central pollution control board of Ten Days in Oct. 2018 – Nov. 2019.

TABLE NO. - 1

DATE	QUALITY OF AIR	A.Q.I VALUE	LEVEL OF ZONE
26 Oct 2018	Unhealthy	151 $\mu g/m^3$	Red
27 Oct 2018	Unhealthy	155 $\mu g/m^3$	Red
28 Oct 2018	Unhealthy	161 $\mu g/m^3$	Red
29 Oct 2018	Unhealthy	157 $\mu g/m^3$	Red
30 Oct 2018	Unhealthy for sensitive Group	118 $\mu g/m^3$	Orange
31 Oct 2018	satisfactory	102 $\mu g/m^3$	Orange
01 Nov 2019	Unhealthy for sensitive Group	111 $\mu g/m^3$	Orange
02 Nov 2019	Sensitive Groups	130 $\mu g/m^3$	Orange
03 Nov 2019	Sensitive Groups	118 $\mu g/m^3$	Orange
05 Nov 2019	Hazardous	324 $\mu g/m^3$	Maroon

Source – Central control of pollution board.

According to the above discussion and table No. 1 prove that Second parameters i.e. “causes of pollution ” is true. This situation is moderately polluted.

UNDERSTANDING THE AQI

The purpose of the AQI is to help you understand what local air quality means to your health. To make it easier to understand, the AQI is divided into six categories :-

TABLE NO. - 2

Air Quality Index (AQI) Values	Levels of concern	colors	Effected area
When the AQI is in this range :	...air quality conditions are :	...as symbolized by this color	Name of Places
0 to 50	Good	Green	Parsama, Dandibag, Bhadeja
51 to 100	Moderate	Yellow	Magadh university, Bodhgaya to Military Camp Gaya
101 to 150	Unhealthy for sensitive Groups	Orange	Gaya Magadh Medical, Kaler
151 to 200	Unhealthy	Red	Sikriya More to Gaya College, A.P. Colony

201 to 300	Very Unhealthy	Purple	Gaya College to Gewal Bigha More
301 to 500	Hazardous	Maroon	Gandhi Maidan to Station Area

Note:- Value above 50 considered beyond the AQI. Follow recommendations for the hazardous category. Additional

information on reducing exposure to extremely high levels of partial pollutions is available here.

TABLE NO. - 3

SL. NO.	LEVELS OF AIR QUALITY IN GAYA	NO. OF DAYS	TOTAL DAYS	LEVEL OF ZONE
1.	324 µg/m ³ Hazardous	05 Nov.	01	Maroon
2.	151 to 161 µg/m ³ Unhealthy	26 to 29 Nov.	04	Red
3.	100 to 150 µg/m ³ Unhealthy for sensitive Groups	30 Oct. to 03 Nov.	05	Orange

According to table No. 3 Prove that moderate to Unhealthy area is increasing Day by Day in Gaya city. According to patna AIIMS Dr. Ravikriti told Patients of Asthama is

increasing rapidly. A large number of Ashthama Patient of Magadh medical of Gaya were refferd to Patna AIIMS.



The harmful gases increase pollution and temperature. Every year 0.5°c temperature is increasing. Flood any Dry is result of Global warming. Agriculture is effected by Global warming in gaya district. Rainy season cycle is not at proper time. Some time it comes before agriculture and sometime after. Our agriculture depends on climate. Climate variability and change can negatively impact human health and Agriculture.

Agriculture is the backbone of India economy which in turn relies on the monsoon seasons. About 80% peoples

depends on Agriculture. Present study shows that the crop production depends on temperature. Hence, temperature can be one of the significant parameter in crop production studies.

SUGGESTIONS:- There is a need of improvement in the law and order as well as good traffic system in Gaya. We have to come forward to control this pollution because without public participation it is not possible. When the people will actively participation only then this pollution can be Checked. My suggestions is :-

- Maintenance of sewage, sanitation and drainage should be made.
- Strict administrative can improve the situation of pollution of natural resource etc.
- Develop the Green zone in city.
- CNG cars has to use.
- Avoid old cars.
- Diesel tempo and cars will have to baned.
- Coal burn and wood burn should also be stopped.

We have to inspire the people for air purifying house plants like Money plants, aloevera, cactus, lily, tulsi, furn,

palm bamboo, English ivi, lady palm, Aricha palm, Archid, umbrella tree, snake plants, Garbera. These plants are air purifier. It increase Oxygen in environment. These are indoor Plants. We can take it in short places on roof of the house. We should do plantation in road side, River side, Pond side. We should attract the people to Religious plants like peepal, Neem, Bael, Ashoka, Mango, Banana, Coconut, Sandalwood, Kadamb, Banyan, Sammi etc. The leaves and fruits of the sacred trees are used in many religious ceremonies.



The Government is maintaining of sewage, sainitation and drainage. But people has to come to help municipality worker to maintenance the garbage. People should collect the garbage in two parts wet garbage and dry garbage. The wet garbage put in green dustbin box and dry garbage in blue box. Thus, we can improve the situation of pollution.

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