ABSTRACT
Environment is one of the major issues to save earth and human life. It is our surrounding atmosphere, whatever we have around us like objects, weather conditions, and cleanliness, etc. make our environment. Everything that is in environment adds some hurdles for human life to survive as, if it is cold we need to keep our self warm, if it is dirty we need to protect our self from diseases and so on. The environment may be natural or manmade. Man made environment is what we want and keep in our surrounding to make our self comfortable for this we can use the term built environment also which refers to the human-made surroundings that provide the setting for human activity, ranging in scale from personal shelter and buildings to neighborhoods and cities that can often include their supporting infrastructure, such as water supply or energy networks, etc. In this we have accounted the efforts of the business organizations to save environment. We studied the changes in aquatic life due to climate.

KEYWORDS: PAHs, SPM, HC and ppm etc.

INTRODUCTION
Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater), very often by human activities. Water pollution occurs when pollutants (particles, chemicals or substances that make water contaminated) are discharged directly or indirectly into water bodies without enough treatment to get rid of harmful compounds. Pollutants get into water mainly by human causes or factors. Water pollution can be a Point-source, Non Point-source, or Tran boundary in nature. Water pollution can be classified into two broad categories: Point and Nonpoint source. Point source water pollution occurs when harmful chemicals or effluents are discharged directly into a river or other sources of water. The nonpoint source occurs when the harmful pollutants are discharged indirectly, through
water runoffs caused by heavy rainfall. For example, when the fertilizers added to crops is
discharged into a stream or lake by a water runoff. While point sources can be monitored and
controlled, it is difficult to monitor and regulate a nonpoint source. Most streams and lakes
today get contaminated through nonpoint sources of pollution. We studied about the
dissolved oxygen, alkalinity etc and how global warming effected their life. By that we can
remove all these impurities and get palatable water.

Physico chemical changes in water bodies
Water pollution is one of the hottest issues of these days. Water is a very important resource
for people and the environment.\(^2\) We are facing so many problems due to impurities present
in water and it also effects on the quality of water, these impurities are in the form of PAHs,
hydrocarbons, algae etc. In Lucknow, the main water supply is only from Gomti. Its, an
important tributary of Ganga River and perennial river of Awadh plains runs across the major
parts of Uttar Pradesh, covering nine districts and a distance of approximately 940 km.
During its course, Gomti River receives huge quantities of untreated sewage agricultural run
offs which brings lot of pesticides, fertilizers, street washouts bringing oil, asphalt, sediments;
industrial wastes all of which significantly alter the physico-chemical characteristics of its
water. In Lucknow city, various industries like distillery, milk dairy, vegetable, oil, carbon
e.tc are pouring effluents directly into the Gomti as it is the only source of water for the
nearby communities. Due to increased pollution levels water quality of Gomti is deteriorating
continuously. Increased level of turbidity makes Gomti River water unpalatable, hence
making it a matter of concern. Gomti River receives industrial as well as domestic wastes
from various drains of Lucknow city. In the process the water and sediment of the river
Gomti get contaminated with heavy metals and other pollutants.

Effect of changes on aquatic life
Recently the banks of river Gomti in Lucknow were unusually abuzz. Some people were
struggling to wade through the 'sewage-enriched' river to scoop up thousands of dead fish; the
bystanders looked on, probably contemplating the peril their city's lifeline.\(^3\) The river is one
of the major sources of water for Lucknow. We observed that fish died due to decrease in
dissolved oxygen level of the river water, but this is not only because of sewage, some other
factors are also responsible for that. For getting the complete information about this our
officials of the pollution prevention board blame untreated muck for the sad situation. S C
Rai, the mayor of Lucknow, however refutes the claim: "The mass killing of fish has not been
caused by sewage; it is industrial effluents discharged by paper mills, sugar factories and
distilleries in the upstream areas of Sitapur and Lakhimpur-Kheri that spelt doom for the
aquatic life." The dissolved oxygen levels dipped to as low as one milligramme per litre
(mg/l).[1] A minimum level of four to six mg/l is considered essential to sustain aquatic life.

**Effect on aquatic life due to pH**

Over the years, Gomti has become the most polluted river in Uttar Pradesh. Monitoring by
the state pollution control board reveals the water is unfit for consumption. The extent of
pollution is such that the river's biodiversity is being affected. A marine species of molluscs -
- *Solariella* -- was recently found in the river. This is alarming, as *Solariella* is endemic to
coastal waters that ordinarily have high levels of pH (read: alkaline/ polluted conditions). The
presence of *Solariella* was revealed during the first-ever biomapping of the river done by the
Geological Survey of India (GSI), Lucknow.

The invertebrate may have been introduced in the river by birds like waders. But since then it
has been able to survive in the rivers freshwater due to high levels of pH. In other areas such
as Madhavpura, Isauli and Bashariaghat, GSI scientists found *Hemicypris arorai* -- another
organism that survives in highly alkaline water (pH values of 8.2 to 9.1). The high pH levels
of these areas were mainly attributed to the use of fertilisers in nearby fields. [2] To further
prove that pollution is changing the river's biodiversity, GSI scientists tested water samples
from the tributaries of Gomti. The samples were found to be free of *Solariella*and *H arorai*.

**RESULT AND DISCUSSION**

According to experts, the riverine biota being affected by pollution is an indicator of an
impending ecological disaster. The oxygen level in the water might have fallen because of
various reasons. First, the rise in temperature had caused a drastic fall in the water level. A
brief spell of rain also brought garbage into the river, following which dissolved oxygen level
decreased dramatically. Our team has taken samples of water for examination and perform
the experiment and we found that the level of DO was around 5.5 ppm.[4]

**CONCLUSION**

Therefore we can say for surviving the fish at least we required that the dissolved oxygen
should be around 3 mg per litre for survival of fish. Anything below that may lead to fish
mortality, the oxygen levels in the river invariably comes around 5-6 miligram per litre,
which is considered to be safe.
REFERENCES


