"IMPACT OF INDUSTRIAL POLLUTION ON HUMAN HEALTH: A CASE STUDY MIRPURAREA, DHAKA, BANGALADESH"

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This Thesis Report Presented in Partial Completion of the Requirements for the Degree of Bachelor of Science (B. Sc) in Environmental Science and Disaster Management (ESDM)

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DAFFODIL INTERNATIONAL UNIVERSITY

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I

APPROVAL

This thesis report titled **"IMPACT OF INDUSTRIAL POLLUTION ON HUMAN HEALTH: IN BANGLADESH ESPECIALLY DHAKA CITY",** submitted by
Kamal Abdirahman (ID: 181-30-179) to the Department of Environmental Science and Disaster

Management (ESDM), Daffodil International University (DIU) has been accepted as satisfactory

for the partial completion of the requirements for the degree of Bachelor of Science (B.Sc.) in

Environmental Science and Disaster Management (ESDM) and approved as to its style and

contents. The presentation has been held on **(DATE – 00/00/ 00)**.

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II

DECLARATION

I hereby declare that, this thesis has been done by me under the supervision of the **Dr. A.B.M. Kamal Pasha Associate Professor, Department of Environmental Science and Disaster Management (ESDM),,** Daffodil International University. I also declare that neither this thesis nor any part of this thesis report has been submitted elsewhere for award of degree

Supervised by:

_____

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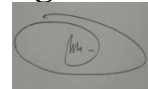
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Submitted by:

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Finally: - I deeply thank my parents for their unconditional support, timely encouragement and endless patience. And also their endless love, support and encouragement.

Dedication

This thesis is dedicated to my parents for their endless love, support and encouragement. Who have raised me to reach and to be the person I am today. Thank you for unforgettable guidance love and your unconditional support. And also I would like to dedicate my work, and also I would like dedicate to my who have given me a lot of support and advice to reach the final goal.

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Abstract

The purpose of this study is to investigate and give a brief perception of Impact of industrial pollution on human health in to the community by contrasting Mirpur Area, Dhaka, Bangladesh.

The research was conducted by a questionnaire using a sample of 100 distributed 100 respondent's different types of the society. Were the 64.0% of the percipients were male and while the 36.0% were female.

Industrial pollution is considered an important factor to contaminate the environment. It results in environmental degradation and imposes heavy costs on society as well as on human health and safety. Textile, cement, glass, plastic, sugar, tanning, petroleum are major polluting industries. Little or no attention is paid to this grave issue of industrial pollution.

There is no systematic approach used by many industrial sectors for proper disposal and drainage of their harmful effluent. The industrial sector should be held accountable for their responsibilities towards proper management of waste effluent, as it contributes to about 50% of the environmental pollution. It creates great social costs in a developing country like Bangladesh. Currently there is no effective management and controlled practices for pollution prevention and control, but authorities have started to pay attention in this regard. Pollution control has become the primary concern of the environment today. The objective of this paper is to explore the impact of environmental pollution on the environment and society. To develop an understanding of environmental degradation, the study discusses the various types of effluents that impact the environment adversely. Recommendations for alternative measures that can be helpful for controlling pollution

Contents   **Page**

CHAPTER 5: CONCLUSION & RECOMMENDATIONS

LIST OF TABLES

Table No.   **Name of the Table**   **Page**

LIST OF FIGURES

Figure No.   **Name of the Figure**   **Page**

CHAPTER01: INTRODUCTION

CHAPTER01: INTRODUCTION

The introduction chapter describes the introductory information of the research study these include a discussion about the background, statement of problem and objectives of the study

1.1 Background

Industrial pollution is pollution that is directly related to industry. This type of pollution is one of the most serious sources of pollution in the globe.

Heavy industry emissions send potentially toxic contaminants into the air, affecting human health. There are several types of industrial pollution. Industrial pollution also has an influence on air quality and can permeate the soil, producing extensive environmental issues.

Bangladesh is perhaps the most thickly populated nations on the planet with roughly 895 person for every square kilometer, and an extended populace of around 146 million continuously 2010. It is likewise one of the world's most unfortunate nations, with a for each capita Gross National Product (GNP) of $260, and in which around 60% of the populace live beneath the destitution line (WB, 1993). The populace remains to a great extent provincial with about 20% living in metropolitan regions. Country vocations are overwhelmed by horticultural creation however individuals' business frameworks are assorted with fishing either for simply means use or little business deals being normal. Fish represents roughly 63% of the creature protein in individuals' eating routine (BBS, 2004). Under 40percent of the country populace approaches current essential medical care (PHC) administrations past kid vaccinations and family arranging (BBS, 2000; Abedin, 1997).

Because of the high population growth rate and neediness levels, Bangladesh has set a seven percent GDP growth target in the Interim Poverty Reduction Strategy Paper (iPRSP) to meet its improvement objectives by 2015. The iPRSP calls for "a focus on business serious industrialisation, with a focus on small and medium firms and commodity-based enterprises" (iPRSP, 2002, p.32).

1.2 Statement problem

The nation actually has a generally little modern area contributing around 20% of the GDP somewhere in the range of 1996 and 1997 however it is developing quickly. The assembling sub-area represents about portion of this and developed at a pace of five percent somewhere in the range of 1972 and 1992 (Bhattacharya et al., 1995). There are currently north of 24,000 enrolled limited scope modern units in Bangladesh (SEHD, 1998) and it is by and large acknowledged there are a comparable number unregistered. The development of limited scope modern exercises in Bangladesh has a positive improvement dynamic in large scale monetary terms, The readymade garment (RMG) sector, for example, contributes for somewhat more than 75 percent of national export revenues and 9.5 percent of GDP, generating $5 billion in sales and employing approximately 10 million people.

2

However, industrialisation has brought with it a slew of issues.The industries tend to be clustered together and are highly polluting. As a consequence of their rapid and largely.

unregulated development, many aquatic ecosystems are now under threat and with them the livelhood systems of local people.

1.3 Industrial Pollution and Effects on Health

Modern exercises are a significant wellspring of air, water and land contamination, prompting sickness and death toll everywhere.
This contamination is a complicated combination of various vaporous and particulate parts and can cause a few wellbeing impacts. Both long-and momentary openness to modern air contamination can cause wellbeing impacts.

➢ Illnesses like cardiovascular infections
➢ Respiratory illnesses
➢ Mortality
➢ Diminished lung working limit
➢ Hacking and wheezing
➢ Migraine, Dyspnea, Chest torment

1.3.1 Factors causing Industrial Pollution

The main considerations adding to the arrival of tremendous measures of Industrial Air contamination which influences human wellbeing are: Production and untreated arrival of harmful substances Untreated garbage removal. Spontaneous modern development Large scope consumption of assets from nature Unregulated sprout of limited scope enterprises Industries are liable for climate corruption in India in the accompanying ways: Industries contribute altogether to India's economy and advancement yet the increment in the quantity of ventures has likewise lead to an expansion in the degree of contamination of land, water, and air. This has prompted the debasement of the climate. There are four sorts of contamination brought about
by ventures air contamination, land contamination, water contamination, and commotion contamination.
Air contamination is brought about by the presence of unwanted gases like Sulfur dioxide and carbon monoxide in a high extent.
Land contamination is brought about by the unloading of waste by the businesses.
Water contamination is brought about by natural and inorganic modern waste and effluents released into the stream.
Commotion contamination is brought about by modern hardware which makes a ton of clamor and is a cause of inconvenience.

Objectives of the study:

- The overall objective of this study was to better understand the disease profile of the study population and determine if any of this profile could be attributed to the pollutants found in the local water bodies. The specific objectives were to:

- Assess the prevalent health conditions of the people living around Mirpur aria and prepare a health profile;

- Identify potential or evidence derived environmental factors associated with those prevalent health problems

- Identify potential pollution related health indicators

CHAPTER 02: LITERATURE REVIEW

CHAPTER 02: LITERATURE REVIEW

2.1 Introduction

This chapter will have discussed concept of noise pollution, source of noise pollution, impact of noise pollution in Dhaka, traffic congestion causes, effect of noise pollution specially effect on animal and nonliving things, noise pollution in current situation

2.2 History of Industrial Development in Bangladesh

Bangladesh is one of the most environmentally vulnerable countries in the world, with a population of about 140million in an area of 147,000 km2 (GoB, 2008). It appears that most of the people are involved in agriculture sector. In fact, 48.4 percent of the population are involved in agriculture sector, 24.3 percent in industrial activity (small to large scale) and 14.2 percent are working in the service sector (GoB, 2008). The agricultural and industrial sectors together have significant contribution to the national GDP. It shows that the contribution of agriculture in GDP was 21.37 percent in 2007 while it was 29.66 percent from the industrial sector in the same year. On the other hand, the contribution of industrial sector to GDP increased from about 18 percent in the year 1980 to 30 percent in 2007. Thus, the industrial sector has emerged as an important player for generating income for growth and development in the country. Industrialization in Bangladesh territory actually started in 1947 (Ahmed and Reazuddin, 2000). The main industries at that time included jute, cotton and sugar(Reazuddin, 1994). But there was rapid growth in these industrial sectors at the post-independence period especially during late 1970s. In fact, the government took a number of initiatives including establishment of industrial estates, export processing zones etc. to promote industrial growth during the mentioned period. By late 1990s, the industrial infrastructure of the country earmarked establishment of 60 industrial estates and two Export Promotion Zones (EPZs). This facilitated the growth of readymade garment (RMG) (small to large) industry in a rapid manner. The RMG industry of Bangladesh concentrates mainly in manufacturing of shirts, T-shirts, trousers, sweaters and jackets. The development of RMG industry has enormous contribution to export earnings, employment creation, poverty alleviation and the empowerment of women in the country. It shows that the number of the RMG industrial units had increased to 4107 in 2005 from 30 in 1980 (Zafar Ullah et al., 2004).

The other types of industries including textiles, chemicals and pesticides, rubber and pulp, pharmaceuticals, tanneries, cement, food and sugar, fertilizers were also established in a rapid manner in different areas of the country. To continue the process of industrial growth, the government of Bangladesh took successive initiatives. Evidently, the government provided about 6470 million USD (as loan) to establish small and medium scale industries in 2006-2007 in the country (GoB, 2008). Thus the number of EPZs increased to eight in 2008 from two in late 1990s. These are in Dhaka, Chittagong, Mongla, Comilla, Ishwardi, Uttara (Nilphamari), Adamjee and Karnaphuli. The investment of the government in these EPZs was over 1262.16 million USD in 2007-2008 (until December 2007). The total amount of export from these EPZs was 2.064 billion USD last year, which was expected to be 2.3

7

percent are RMGs and 9.5 percent are textiles. More than 60 percent workers are women in these industries

2.3 What is Industrial Pollution?

The effects of the industries have been evident all over the world since the Industrial Revolution in the 1700s and 1800s. As the demand for raw commodities, low-cost labor, and markets grew, the world's face altered. In their thirst for greatness, industrialized countries devastated others. Human lives were not taken into account or spared. The property was not well-maintained, and neither was the environment. Everything was taken advantage of and mistreated. Wars were waged for dominance, and some sections of the world are still striving to rise from the ashes in the twenty-first century.

Because industries come in diverse shapes and sizes, and each one has its own set of operations, the repercussions of each one are numerous.

Industry pollution pollutes the air, water, and land, as well as contributing to light and noise pollution. The energy business produces radioactivity as a byproduct. The majority of the pollutants may be traced back to one or more industries.

Mining and metallurgical industries, electricity generating facilities, manufacturing companies, processing industries, and other industries all contribute to pollution. The primary polluting processes are as follows:

➢ **Consuming of coal and other non-renewable energy sources like oil, oil, flammable gas.**

➢ **Utilization of synthetic solvents in tanning and coloring enterprises and others.**

➢ **Arrival of untreated vaporous and fluid squanders into the climate.**

➢ **Erroneous removal of radioactive squanders.**

➢ **Unchecked clamor radiating from machines like those utilized in oil investigation and boring developments**

➢ **Tasks running after cutoff times or in any case working night movements to expand creation make light contamination and different other medical problems.**

Major pollutants in Industrial Pollution:

Toxic Gases like nitrous oxide, Sulfur dioxide, nitrogen dioxide, sulfurous oxide, chlorine gas, carbon dioxide,

carbon monoxide, sulphuric corrosive, mercury, particulate matter, smoke col dust, fly debris, fluorine, inorganic waste shades, Alkalis, phenols, chromates, natural squanders, weighty metals and surprisingly boiling water.

2.4 Types of wastes

Waste formed in an industry during the washing and processing of raw materials is referred to as process waste. Depending on the source components, this might be organic or inorganic. Both are poisonous to living creatures.

Chemical wastes are chemical substances that are produced as a byproduct during the manufacturing of a product. Heavy metals and their ions, detergents, acids and alkalis, and so on are examples.

2.5 Effects of industrial Pollution

2.5.1 Water pollution

Waste formed in an industry during the washing and processing of raw materials is referred to as process waste. Depending on the source components, this might be organic or inorganic. Both are poisonous to living creatures.

Chemical wastes are chemical substances that are produced as a byproduct during the Manufacturing of a product. Heavy metals and their ions, detergents, acids and alkalis, and so on are examples.

2.5.2 Air pollution

Iron and steel companies, as well as power plants, emit industrial by-products in the form of gases. These have negative health impacts on humans, such as eye irritation and the occurrence and worsening of respiratory disorders such asthma, chronic bronchitis, COPD, and emphysema. The residue falls on the plants and is eaten by the animals, who in turn are eaten by larger creatures. Toxins build up in these creatures, causing them harm as well. The growth and reproduction of the plants are harmed.

Many of the gases produced are greenhouse gases, which alter our atmosphere's temperature and contribute to global warming. Acid rain is a result of industrial pollution in the atmosphere.

Wildlife extinction Industrial pollution has a negative impact on many plant, bird, insect, and animal species. Habitats are being wiped out. These industries have an impact on scenic areas. Economic consequences Though industrialization may appear to be a sign of progress and development, the expenditures associated with pollution management and clean-up of contaminated water sources and places are quite significant. There is a decrease in tourism earnings. There is a lot of money spent on health care. In some cases, whole towns must be relocated. Industrial pollution disproportionately affects the economically disadvantaged, less educated working class.

They will be the ones that live near the industrial zone and work there.

They are rarely able to maintain their fight for their rights. They normally do not challenge the industrial sector's growth or expansion because it offers them with work opportunities and amenities for their families. Those that are able to relocate will do so to the suburbs..

2.6 Controlling Industrial Pollution

Control at source

Source control is achieved by careful raw material selection, effective machinery maintenance, the adoption of newer technologies and know-how, the establishment of properly running waste treatment facilities, and so on. Site selection for the industry Given the factory's surroundings, this is a critical consideration.

Industrial waste treatment

Waste must be processed before it can be disposed of. Plantation More trees should be planted and grown since they function as buffers and natural cleansers for the environment. Government Restrictions Government agencies, such as the Environmental Protection Agency, must be authorized to take harsh measures against defaulters and businesses that violate such agencies' standards.

Assessment of environmental Impact

Environmental impact assessments should be performed on a regular basis with the goal of identifying and evaluating the potential and detrimental consequences of industry on natural ecosystems.

CHAPTER 03: METHODOLOGY

3.1 Study Area

My study area was Bangladesh at the point of Mirpur area this study mainly focused impact of industrial pollution and how's effected the people.

The Dhaka water supply authority is forced to import water from outside the city. Not the surface water, but Dhaka's groundwater has already been heavily polluted with heavy metals."

River grabbing has narrowed rivers and created impediments to river water movement. The death of rivers has a negative influence on people's livelihoods, making city weather uncomfortable and pushing displacement.,
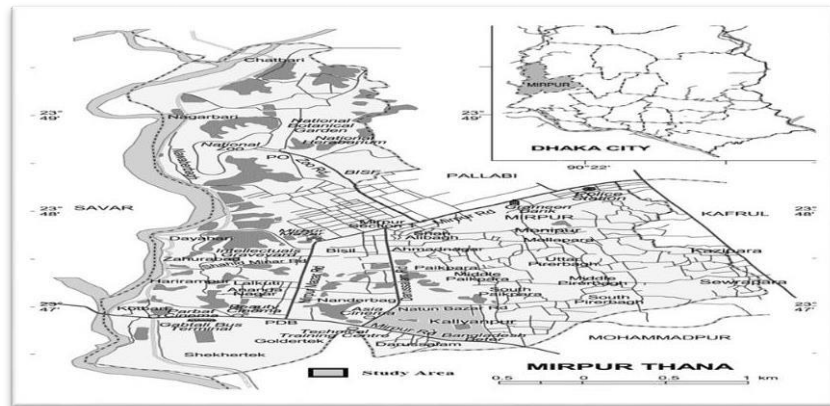

Figure01: - The map of Mirpur Thana / Bangladesh
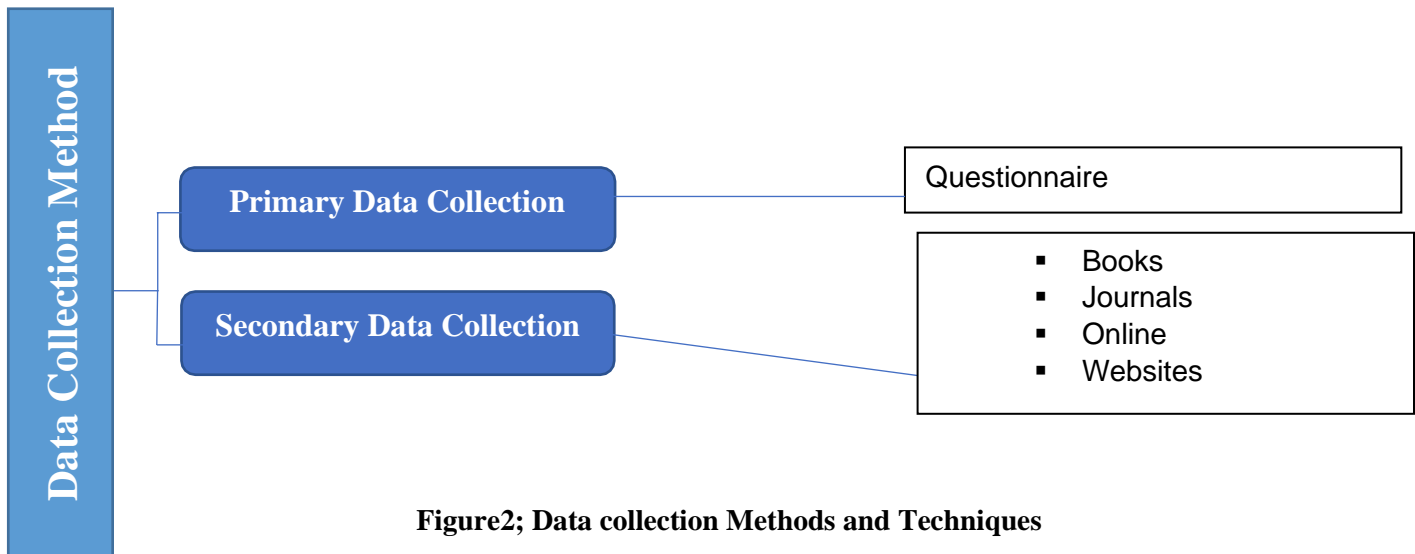
12

3.2 Data Collection Method

Figure2; Data collection Methods and Techniques

3.2.1 Primary data
Primary data are first-hand information, data collection by various methods such as questionnaire survey key information interviewed. and the data will be collected from the people by online questionnaire survey.

3.2.2 Questionnaire survey
When you need to do research, must you need to collect your data many technique, so when try to do this research, I was use questionnaire that participated a lot student and different type of society, at that time I was prepared questionnaire about impact of industrial pollution on human health in Bangladesh my case study Dhaka city

3.2.3 Secondary data collection
A party from primary data, secondary data also very essential to conduct the study.
The information about impact of industrial pollution on human health so the information of secondary data was taken from different relevant book, articles, report, maps, journals, research papers, websites, daily newspapers, libraries, etc.

3.3 Research design
Research design is the framework of research methods and technique chosen by a research. The design allows analyst focus on research technique that are apocopate for the topic and set up their investigation up for progress. Alludes to the general procedure used to compete exploration that characterized brief and legitimate arrangement to handle set up research question, through the assortment, understand, investigation, and conversation of information.

13

During this study I was conduct many questionnaires that related impact of industrial pollution and participated a lots of students and different type of society

3.4 Limitations of the study

The major limitations of the study were many things such as
 firstly, when I started this study of research I was faced a lot of limitations related the data collection so when I was try to do interview, it become very difficult to do interview, because only I used questionnaire that participate a lot student and different type of the society
Secondly the most part of research I was collect online because coved19 faced worldwide at that time It was very difficult to go outside and also the countlochdown.

CHAPTER 4: RESULT AND DISCUSSION

4.1 Introduction

This chapter focused on presentation and data analysis interpretation of the study; the researcher investigated the impact of Industrial Pollution On Human Health, also this cover three parts of research, so the first part is introduction, the second part demographic of the respondents, while third part is research question interpretation and data presentation.

4.2 Section A: Demographic Profile of the Respondents

The findings data on the respondents, I asked the following through questionnaire form and the data from responders are illustrated below,

Table 01: Gender of Respondents

	Frequency	Percentage
Male	64	64.0
Female	36	36.0
Total	100	100

The above table shows that the majority 64.0% were male, while of the respondent rate 36.0 only where female, this table shows the male respondents are more than female respondents.

16
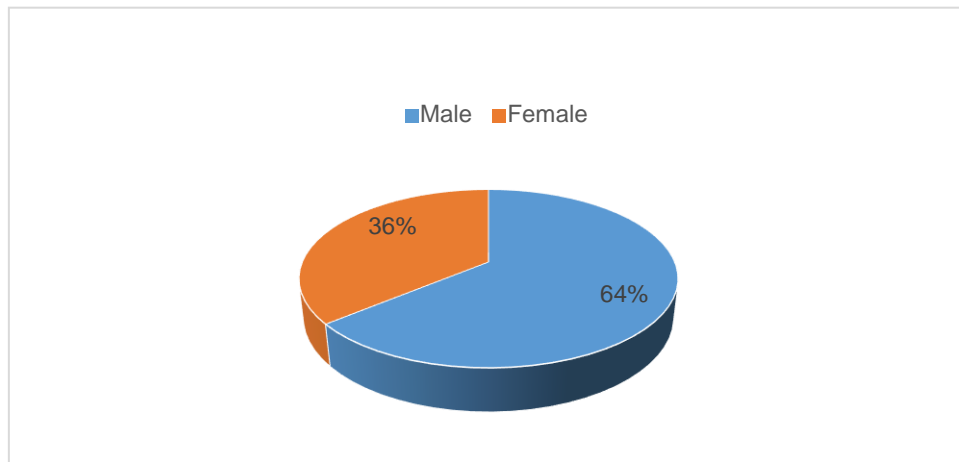
Table 02: Age of the Respondents

	Frequency	Percentage
18-25	61.4	61.4
25-32	29.7	29.7
32 Above	8.9	8.9
Total	100	100.0

The above table shows that the majority of the respondent tare was 61.4% were ages between 18-25, and the second majority 29.7% respondents age is 25-32, and third majority respondent age 32 above is 8.9%.

17
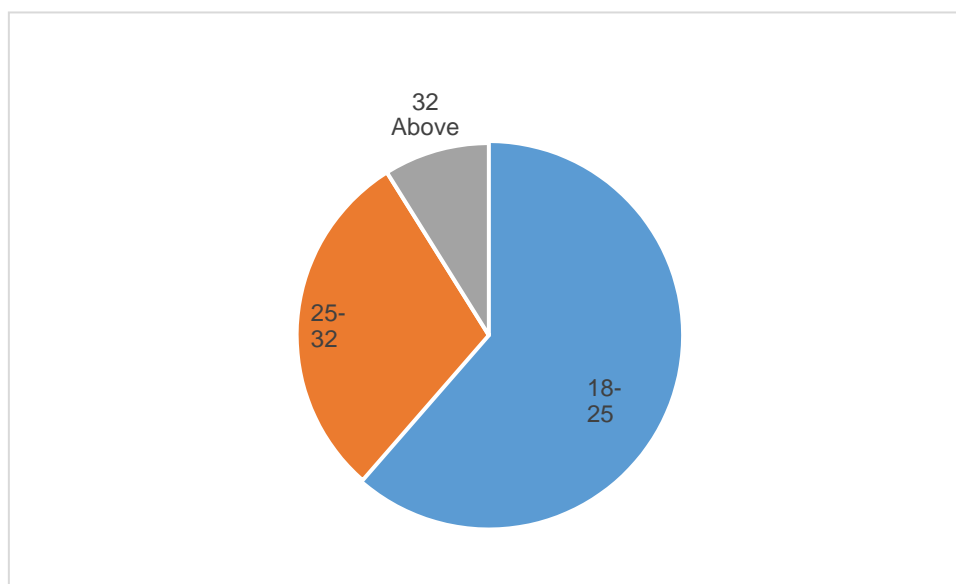
Table 03: Educational Level of respondent's

	Frequency	Percentage
High school Diploma	5	5.0
Associate Degree	3	3.0
Bachelor Degree	64	64.0
Master Degree	28	28.0
Total	100	100.0

The above table summarizes educational level respondents, respondents level categorized High school Diploma, Associate Degree, Bachelor Degree and Master Degree level. Rate was 5.0% High school Diploma respondents, Associate degree is 3.0%, and the rate majority educational level is bachelor degree 64.0% and master level rate is 28.0%.
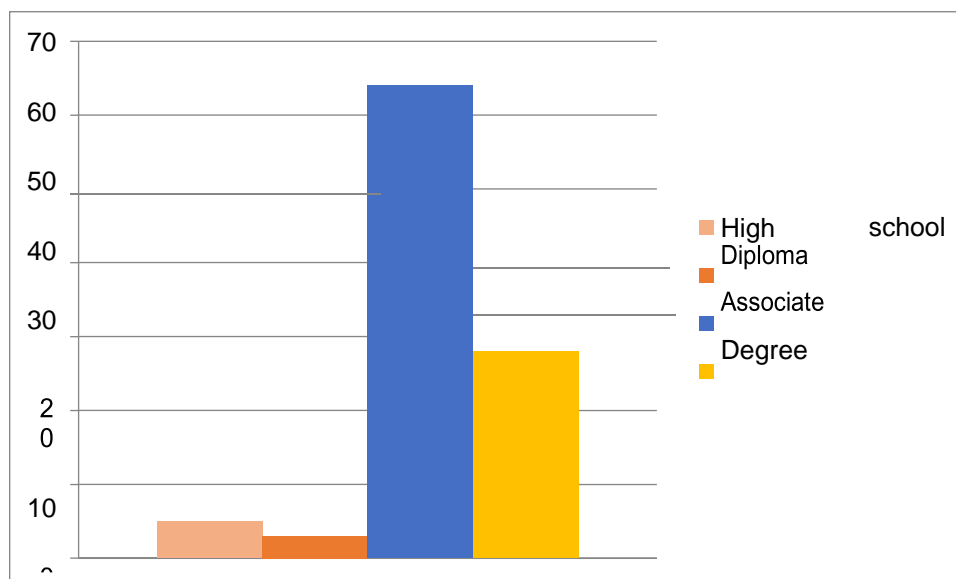
Table4: - Respondents know the people the effected Industrial emissions in living near the industry

	Frequency	Percentage
Yes	90.1	90.1
No	5.9	5.9
Maybe	4	4.0
Total	100	100.0

The above table 90.1% of respondent's selected Says Yes, 5.9% rate no and 4.0% say maybe.
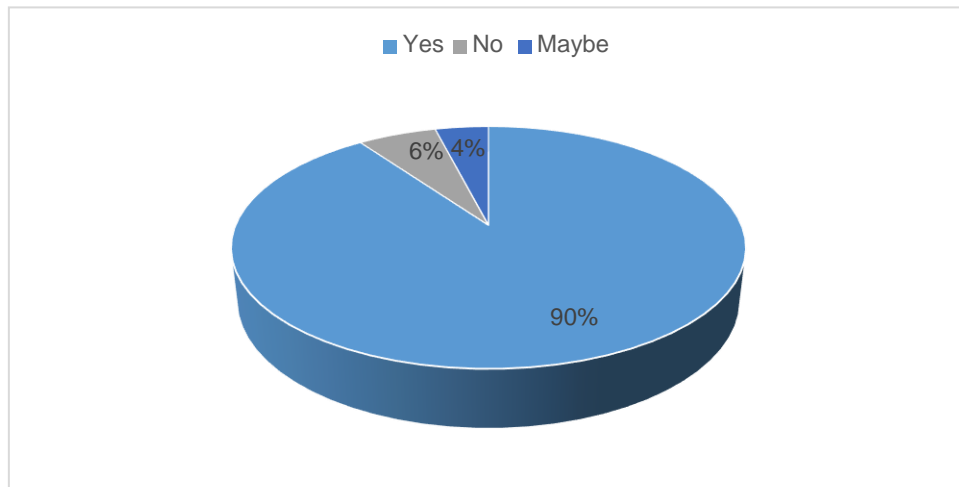
Table5: - Shows the industries located in respondent's areas

	Frequency	Percentage
Yes	33.7	33.7
No	53.5	53.5
Maybe	12.9	12.9
Total	100	100.0

The above table summarizes the industries located in respondent's areas rate 33.7% of respondent's selected (Yes), rate 53.5% of respondent's selected (No), 12.9% Selected (Maybe).

19

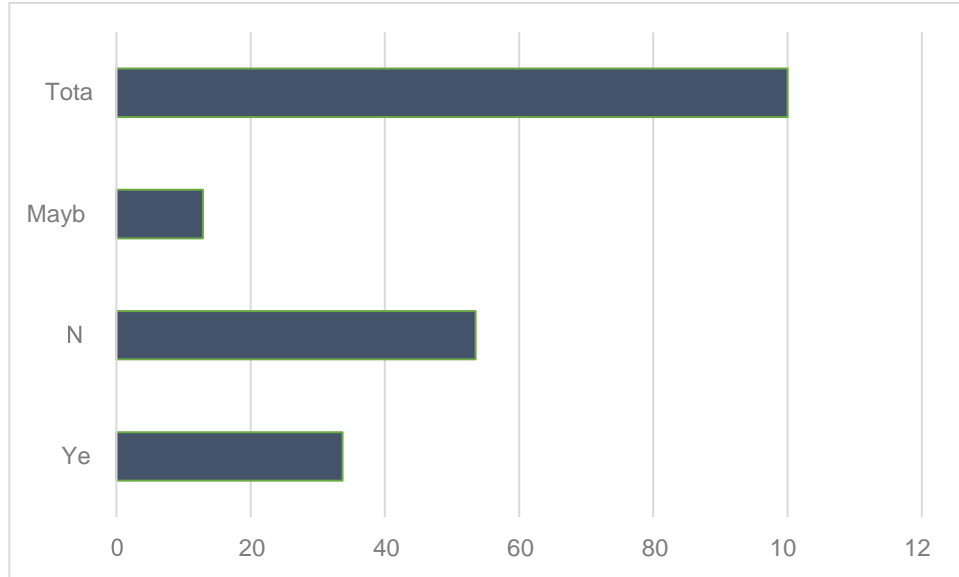**Table6: - Shows Are there any solid, or wastes generated from this facility that are discharged to surrounding areas?**

	Frequency	Percentage
Yes	31	31.0
No	55	55.0
Maybe	14	14.0
Total	100	100.0

The above table 31.0% of respondent's opinion selected Says Yes, 55.0% rate majority of respondents selected No and 14.0% say maybe.
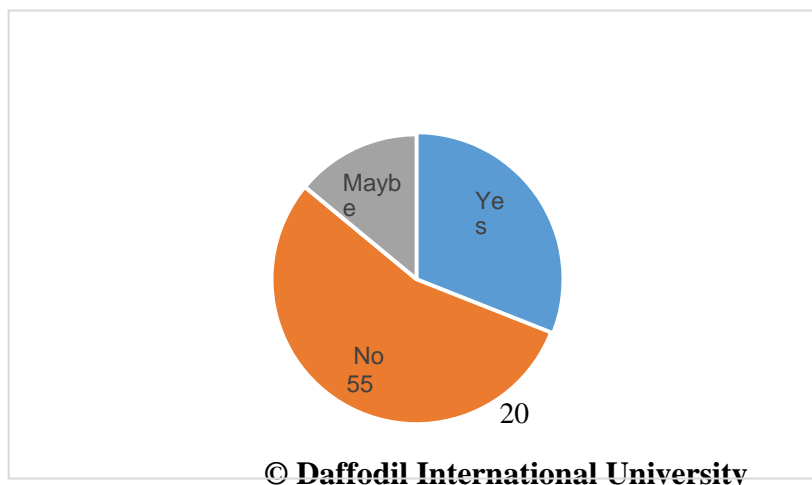
Table7: - Does this facility/industry treat it is waste water before they discharge?

	Frequency	Percentage
Yes	22.2	22.2
No	43.4	43.4
Maybe	34.3	34.4
Total	100	100.0

The above table 22.2% of respondent's opinion selected Says Yes, 43.4% rate majority of respondents selected No and 34.3.0% say maybe.
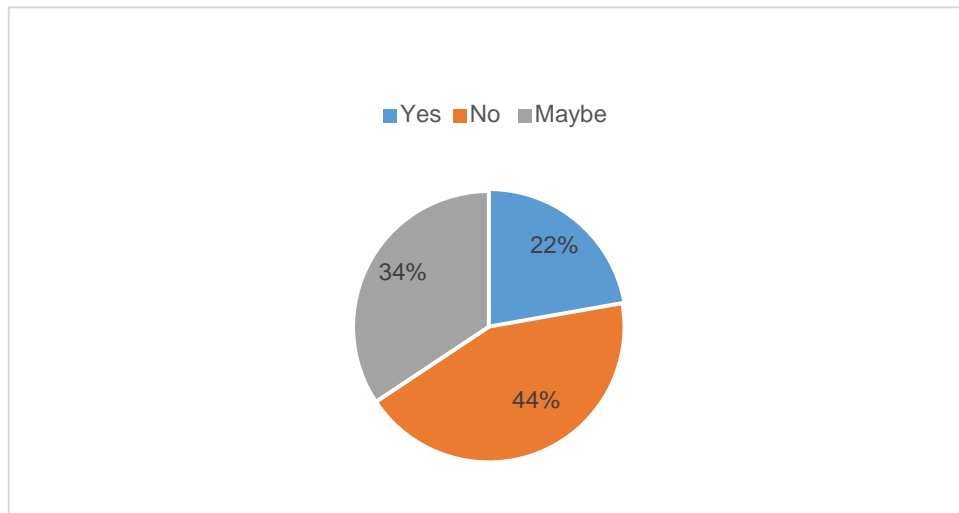
Table8: - Does this facility/industry has more than one (1) sanitary sewer connection?

	Frequency	Percentage
Yes	46.5	46.5
No	16.2	16.2
Maybe	37.4	37.4
Total	100	100.0

The above table 46.5% of respondent's opinion selected Says Yes, 16.2.0% rate majority of respondents selected No and 37.4.0% say maybe.

21
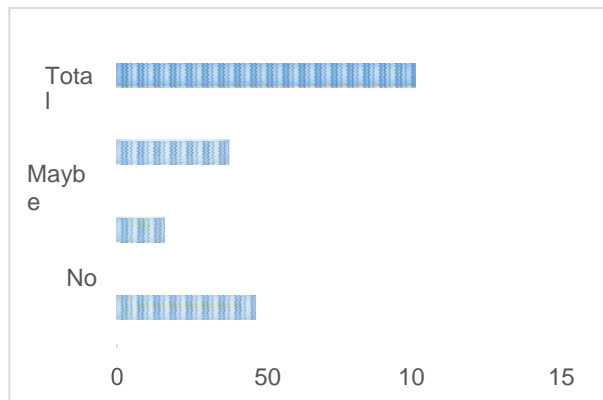
Table 9: - Shows the facility generate any hazardous waste other than waste water

	Frequency	Percentage
Yes	74	74.0
No	13	13.0
Maybe	13	13.0
Total	100	100.0

The above table 74.0% of respondent's opinion selected Says Yes, 113.0% rate majority of respondents selected No and 13.0% say maybe.


22
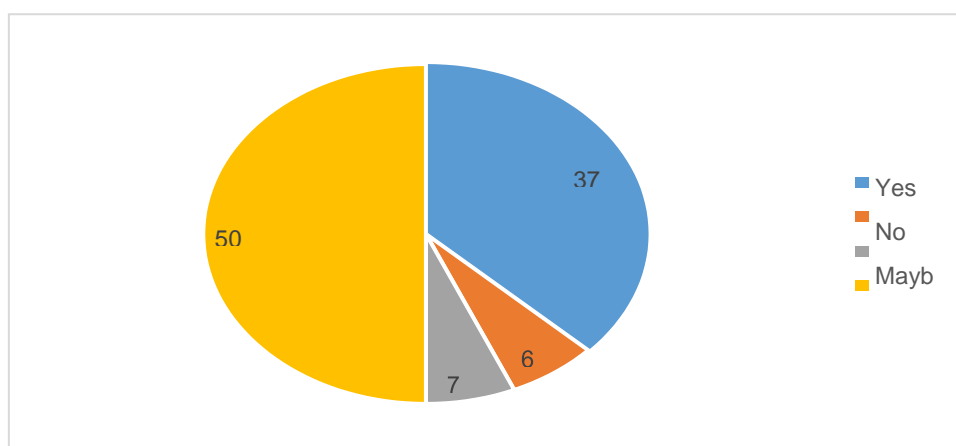
Table10: - Do you or anyone you know suffer any diseases caused by industrial pollution in your area?

	Frequency	Percentage
Yes	32.7	32.7
No	58.4	58.4
Maybe	8.9	8.9
Total	100	100.0

The above table 32.7% of respondent's opinion selected Says Yes, 58.4% rate majority of respondents selected No and 8.9% say maybe.
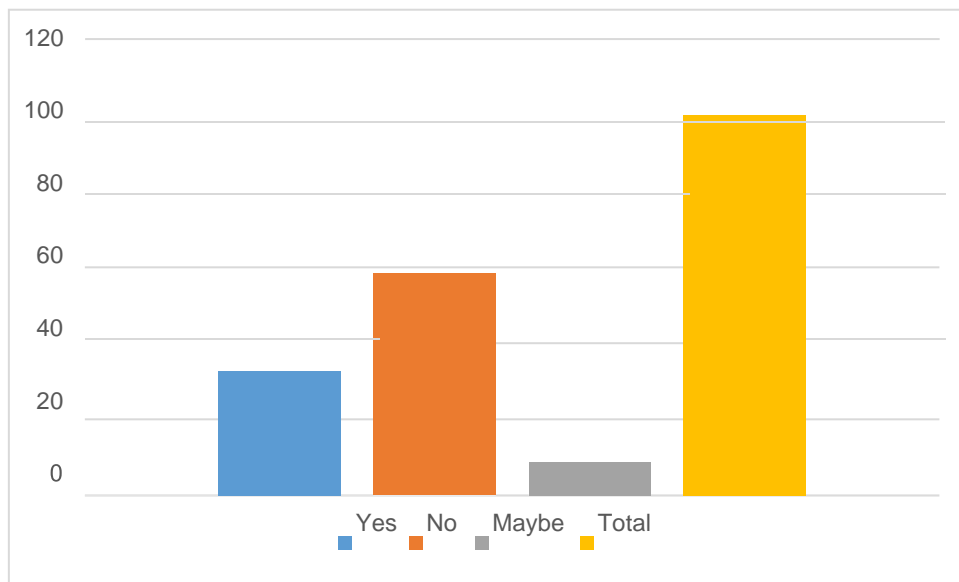

Table11: - Do you think is it right to build factories in populated areas?

	Frequency	Percentage
Yes	23.8	23.8
No	76.2	76.2
Maybe	0	0.0
Total	100	100.0

The above table 23.8% of respondent's opinion selected Says Yes, 76.20% rate majority of respondents selected No and rate 0.0 maybe.
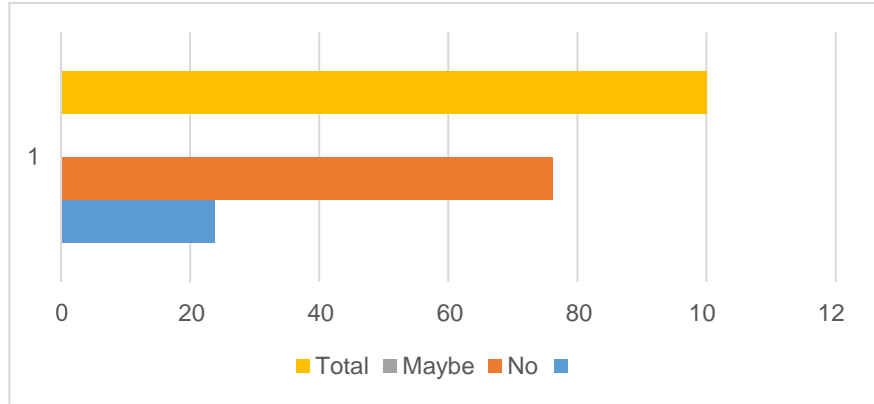
Table12: - Do you agree the Bangladesh is one of the places where industrial pollution affects health and sometimes people die as a result of pollution?

	Frequency	Percentage
Yes	86.1	86.1
No	13.9	13.9
Maybe	0	0.0
Total	100	100.0

The above table 86.1% of respondent's opinion majority selected (Yes), rate 13.9%respondents selected (No) and 0.0 rate say (maybe).

24
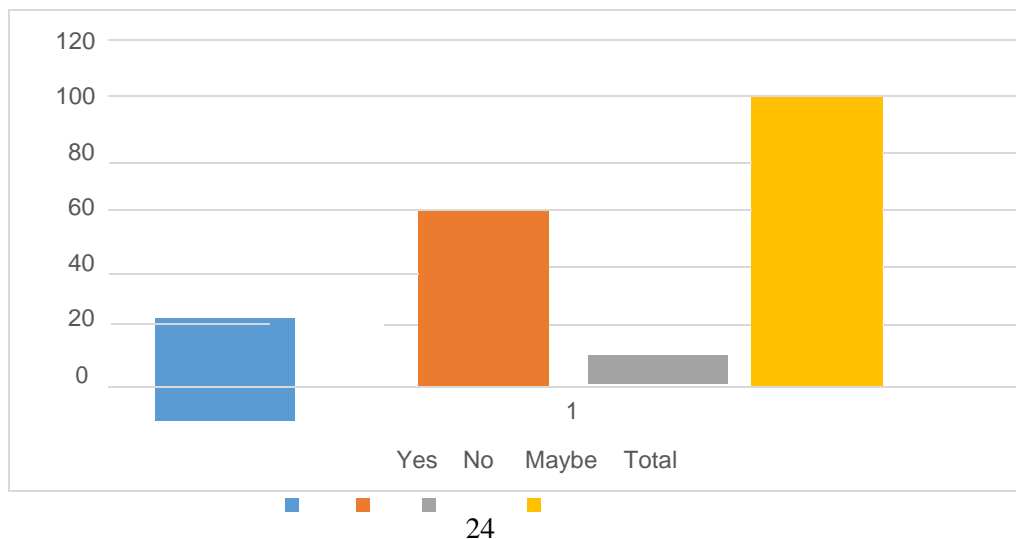
Table13: - Do you believe certain diseases like Respiratory problem, asthma and other healthy complication problems can be resulted from industrial pollution?

	Frequency	Percentage
Yes	75.2	75.2
No	7.9	7.9
Maybe	16.8	16.8
Total	100	100.0

The above table shows the majority respondent's opinion rate 75.2% selected (Yes), rate 7.9% respondents selected (No) and 16.8% selected (maybe).
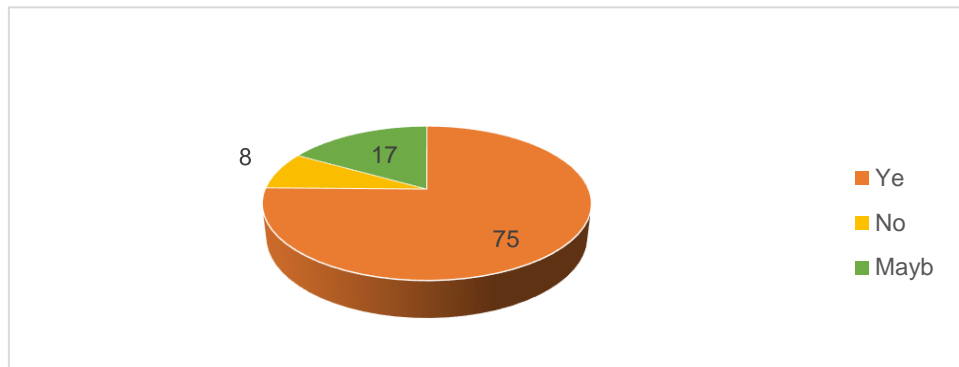
Table14: - Do you think the Polluted water used by industries causes cancer, diarrheal and other related disease?

	Frequency	Percentage
Yes	59.4	59.4
No	0.0	0.0
Not sure	39.6	39.6
Total	100	100.0

The above table rate 59.4% of respondent's opinion selected (Yes), 0.0% rate of respondents selected (No) and 39.6% say (maybe).

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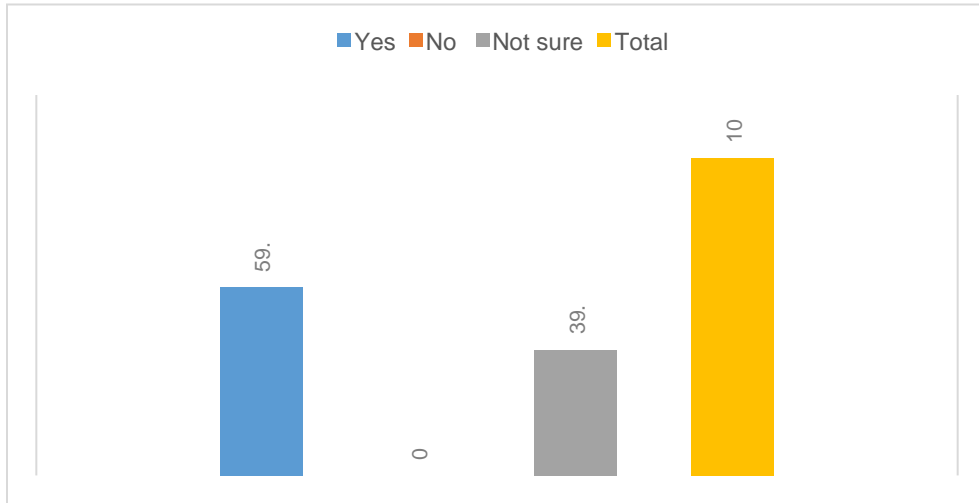
Table15: - On the scale of 1-10 how will you measure your knowledge on the impact of industrial pollution on environment

26
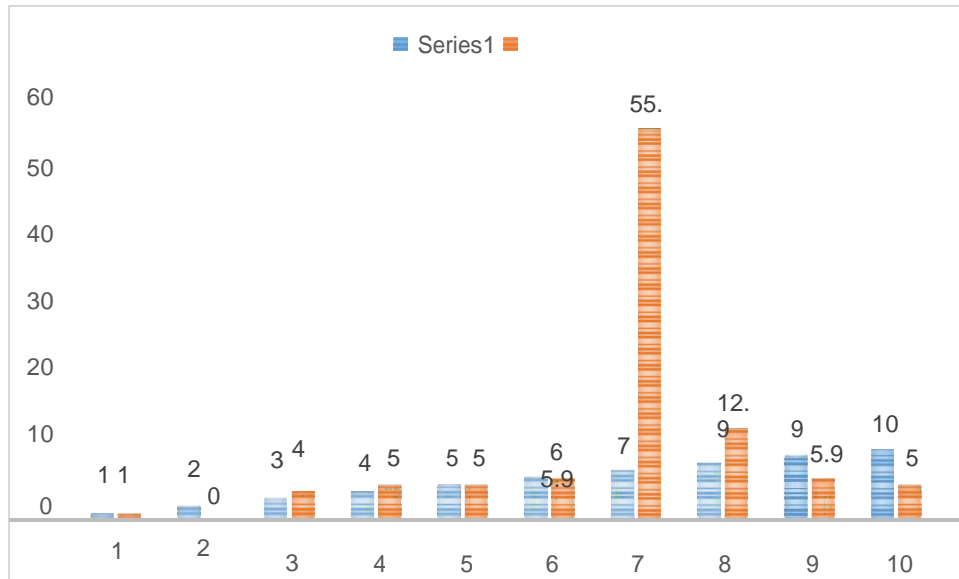
Table16: - considering your knowledge what is the key effect of industrial pollution on environment?

	Frequency	Percentage
Climate Change	40	40.0
Health problem	25	25.0
High Temperature	15	15.0
Environmental problem	20	20.0
Total	100	100%

The above table summarizes respondent's opinion rate 40.0% selected Climate Change, rate 25.0% of respondents selected health problem, rate 15.0% of respondents selected Health problem and rate 20.0% of respondents selected Environmental problem.
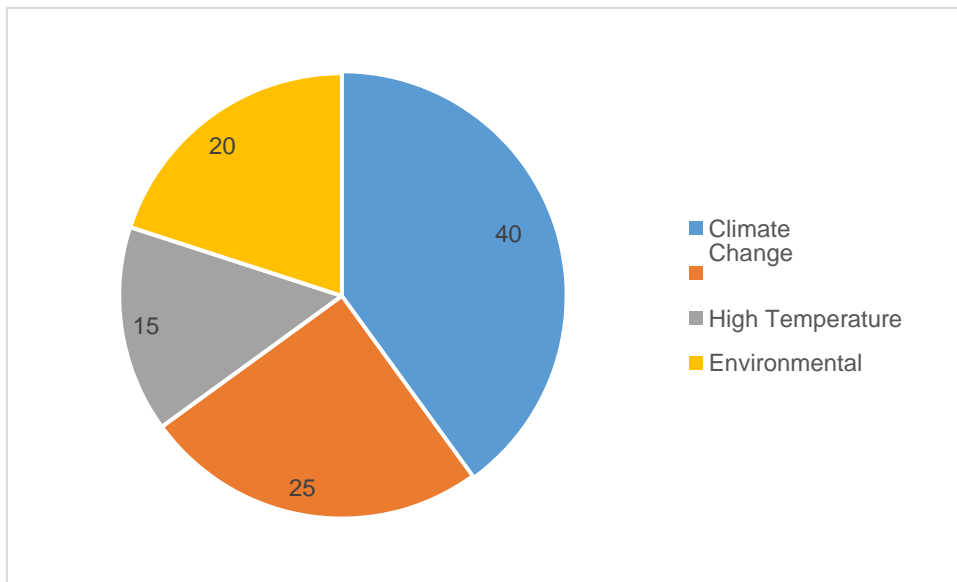
Table17: - Shows the respondents suggest in order to tackle industrial pollution

	Frequency	Percentage
T0 build industrial outside of the city	60	60
Destroying Industrial Pollutants	15	15
Decreasing industrial	10	10
Public awareness	12	12
Using green energy	3	3
Total	100	100

The above table summarize majority of respondents suggest to build industrial outside of the city industries rate 60% selected, rate 15.0% Destroying Industrial Pollutants, rate 10% Decreasing industrial, rate 12.0% Public awareness and rate 3.0% Using green energy
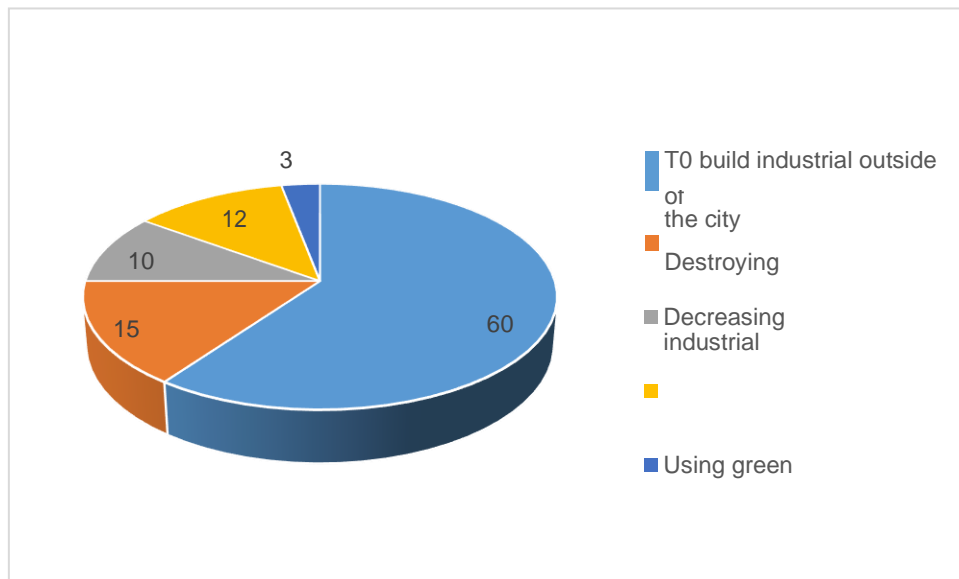
Table18: - On scale of 1-5 will you recommend the government and concerned authorities to come up polices and regulation to regulate impact of pollution on human health and environment?

	Frequency	Percentage
1	2	2.1
2	1	1.0%
3	15	15.5%
4	15	15.5%
5	64	64%
Total	100	100%

CHAPTER 05: RECOMMENDATIONS AND CONCLUSION

5.1 Recommendations

➢ **Making Rebuilding Habitats and Afforestation**

Modifying natural surroundings by establishing more trees and plants can assist with giving untamed life back their homes, and the trees can assist with cleaning the air with sufficient oxygen, and go about as a cushion against the climate.

➢ **Making Source Contro**l

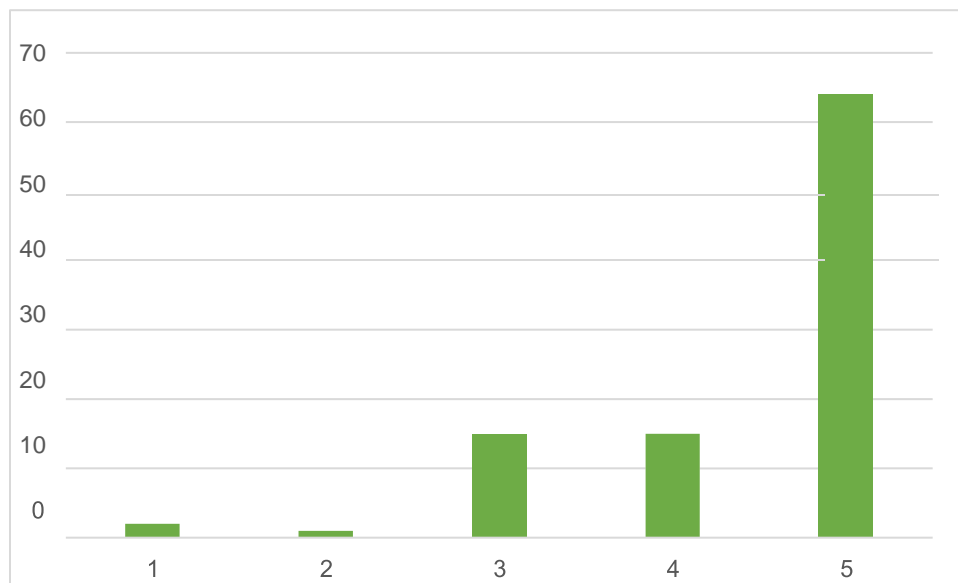Taking on new innovation, productive preparing of workers for safe use and improvement of better innovation for removal of waste, and being more honest with regards to the utilization of unrefined substances can assist with controlling modern contamination at the source.

➢ **Make Stricter Laws and Enforcement**

The Environmental Protection Agency (EPA) attempts to address the harm from modern contamination. There ought to be more severe guidelines to make a move against the organizations who don't follow　\ appropriate convention and more huge prizes for the organizations who work appropriately. It requires making approaches that forestall abuse of land.

➢ **Have Regular Environmental Effect Assessments**

Being a mindful organization or industry ought to require ordinary natural effect appraisals that are accounted for assessment. Assuming there are unsafe effects found during the survey, important activities to address the adverse results ought to be created and upheld

5.2 Conclusions

Many residents feel that the growth in the number of industrial units in the region is to blame for these issues. They believe that sewage entering the area's surface water bodies, including the khal and beel, is lowering the quality of the water and, as a consequence, they are unable to utilize it for the activities for which it was formerly used, such as bathing and washing animals.

Skin issues, for example, might be caused by the high pH of the water, which has been discovered to be as high as pH 10.9 in some areas of the khal (Chadwick and Clemett, 2003). Such antacid conditions could absolutely aggravate the skin and result in wounds. The high pH levels are probably going to be the aftereffect of the huge amounts of burning pop and soft drink debris utilized in the coloring system to accomplish a pH of between pH 10.5 and pH 11.5.

The examination embraced with the local area and wellbeing laborers in Dhaka city gives proof that neighborhood networks are experiencing an assortment of medical conditions that could be an immediate or backhanded consequence of the exercises of nearby plants. These issues incorporate skin infections, the runs, loose bowels, respiratory sicknesses, frailty and intricacies in labor. Individuals from the local area and wellbeing laborers are of the view that the occurrences of different medical conditions are moderately high nearby and are expanding. At times, this is authenticated by measurable data.

This outcomes in the enduring of the close by networks. The public authority needs to investigate this issue genuinely and go to lengths in implementing existing guidelines and guidelines to decrease the wellbeing dangers of the networks

Every one of the discoveries are steady hypothetically, and have experimental ramifications too. The strategy ramifications of this review is that the relief of modern contamination, thinking about other relevant

elements, ought to be addressed fittingly by articulating successful approaches to lessen the human demise   rate and further develop wellbeing status

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Research project Questionnaire on '***IMPACT OF INDUSTRIAL POLLUTION ON HUMAN HEALTH IN BANGLADESH ESPECIALLY DHAKA CITY*** "by Kamal Abdurrahman ID 181-30-179, Department Environmental science and disaster management (ESDM), Daffodil international University (DIU).

1: - Name of respondent

2. Gender

    A) Male ☐

    B) Female ☐

3. Age

    A) 18-23 ☐

    B) 25-32 ☐

    C) 32 Above ☐

C) 4. Educational level

5. Division

    A) Dhaka ☐

    B) Rangpur ☐

    C) Barisal ☐

    D) Chittagong ☐

6. Did you know that the Industrial Emissions Does it affect the health of people living near the industry?

    A) YES ☐
    B) No ☐
    C) Maybe ☐

7. Is there any industries located in your area?

    A) YES ☐
    B) No ☐
    C) Maybe ☐

8.if yes Please check the boxes of all processes/activities that occur at this facility?

    A) Battery Manufacturing ☐
    B) Chemical Manufacturing ☐
    C) Textile Manufacturing ☐
    D) Pharmaceutical Manufacturing ☐
    E) Leather Tanning/refinishing ☐

9.Are there any solid, or wastes generated from this facility that are discharged to surrounding areas?

    A) YES ☐
    B) No ☐
    C) Maybe ☐

10.Does this facility/industry treat it is waste water before they discharge ?

    A) YES ☐
    B) No ☐
    C) Maybe ☐

11. Does this facility/industry has more than one (1) sanitary sewer connection?

    A) YES ☐
    B) No ☐
    C) Maybe ☐

12. Does this facility generate any hazardous waste other than waste water?

A) YES ☐
B) No ☐
C) Maybe ☐

13. Do you know suffer any diseases caused by industrial pollution in your area?

A) YES ☐
B) No ☐
C) Maybe ☐

14. Do you think is it right to build factories in populated areas?

A) YES ☐
B) No ☐

15. Do you agree the Bangladesh is one of the places where industrial pollution affects health and sometimes people die as a result of pollution?

A) YES ☐
B) No ☐

16. Do you believe certain diseases like Respiratory problem, asthma and other healthy complication problems can be resulted from industrial pollution ?

A) Yes ☐
B) No ☐
C) Maybe ☐

17. Do you think the Polluted water used by industries causes cancer, diarrheal and other related disease?

A) Yes ☐
B) No ☐
C) Not Sure ☐

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18. On the scale of 1-10 how will you measure your knowledge on the impact of industrial pollution on environment

1	2	3	4	5
◯	◯	◯	◯	◯

19. considering your knowledge what is the key effect of industrial pollution on environment

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20. What will you suggest in order to tackle industrial pollution?

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│                                              │
│                                              │
└──────────────────────────────────────────────┘
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On scale of 1-5 will you recommend the government and concerned authorities to come up polces and regulation to regulate impact of pollution on human health and environment?

1	2	3	4	5
◯	◯	◯	◯	◯

Figure21: - Shows Industrial Pollution in Dhaka City