

ENVIRONMENT POLLUTION FROM FACTORIES IN TURKEY

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ABSTRACT: *Since the industrial revolution, human nature, his environment, even, and even his own hand, damaging more than ever. Technological advances, the world's population, the demand for new product production and institutionalization, appears dependent on them, and also further increases with increasing damage to the environment.*

Of course, only the factories are not limited to damages to the environment, but all kinds of industry production and wide use of chemical substances is the use of raw materials and emissions of a large amount of waste material as a result of their destructive nature and the environment is much more variety of plants, a little more about environmental pollution pushing forward.

In this paper, the environmental damage caused by factories, and this issue will be discussed as the cause of environmental pollution, air, water, noise pollution, as well as the size of the image will be discussed.

Keywords: *pollution, factory, pollution in Turkey.*

1. Introduction

1.1. What is pollution ?

Pollution is when water, air or land becomes very dirty. Pollution can come in 4 different types effecting different types of areas in the world. Air pollution effects the air, water pollution effects the water and marine life, land pollution effects the land destroying life and the environment and there is also noise pollution that can affect our hearing. We all contribute to pollution in some way or another. Whether it be with a large amount or small amount we can still cause major damage to our health and the environment. Although we all contribute to help stop the increase of pollution. Very little people realize that pollution is very harmful because they do not think of the environment, themselves and other people and what it can do. Pollution is an important factor to our lives. It involves our society and all other animals. Pollution is gradually destroying our planet and is gradually killing ourselves too. Like air pollution, smog and acid rain is a killer to all of us. It destroys marine life, our own health and destroys historical

monuments and statues [www.macgregoss.eq.edu.au] (fig.1).

Pollution is contamination by a chemical or other agent that renders part of the environment unfit for intended or desired use. These uses also and very importantly include all wildlife and ecological requirements to sustain life in all its natural forms.

Pollution damages the Earth's land, water and air. It results in contamination of the earth's environment with materials that interfere with human health, the quality of life, and the natural functioning of ecosystems (living organisms and their physical surroundings).

Pollution is usually caused by human actions, but can also be the consequence of natural disasters. Pollution can also occur from disruption or damage to wastewater collection and .treatment infrastructure due to severe natural events like hurricanes or flooding. Most types of pollution affect the immediate area surrounding the source, and reduce as you move away from the source.

Pollution is often caused by the garbage that people throw on the ground or into oceans, lakes or rivers [ezinearticles.com] .

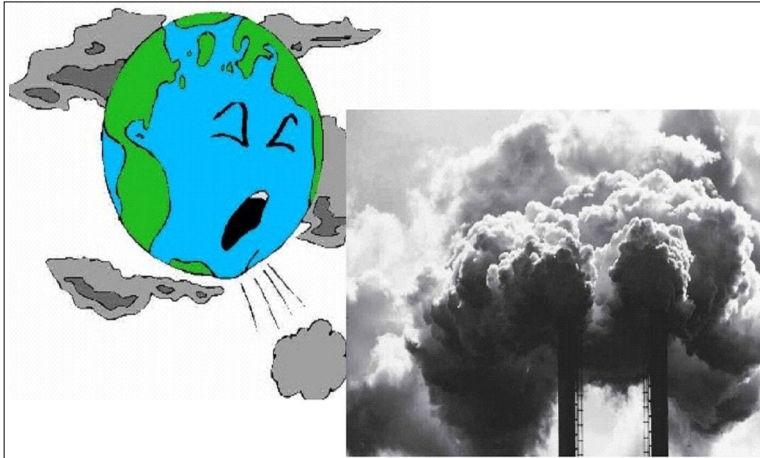


Fig. 1. Pollution is gradually destroying

Pollution is the contamination of air, soil, or water by the discharge of harmful substances. Pollution prevention is the reduction or elimination of pollution at the source (source reduction) instead of at the end-of-the-pipe or stack. Pollution prevention occurs when raw materials, water, energy and other resources are utilized more efficiently, when less harmful substances are substituted for hazardous ones, and when toxic substances are eliminated from the production process. By reducing the use and production of hazardous substances, and by operating more efficiently we protect human health, strengthen our economic well-being, and preserve the environment [www.p2.org].

Pollution is the introduction of a contaminant into the environment. It is created mostly by human actions, but can also be a result of natural disasters. Pollution has a detrimental effect on any living organism in an environment, making it virtually impossible to sustain life [www.green-studentu.com]

Pollution is the introduction of contaminants into a natural environment that causes instability, disorder, harm or discomfort to the ecosystem i.e. physical systems or living organisms. Pollution can take the form of chemical substances or energy, such as noise, heat, or light.

Pollutants, the elements of pollution, can be foreign substances or energies, or naturally occurring; when naturally occurring, they are considered contaminants when they exceed natural levels. Pollution is often classed as point source or nonpoint source pollution [en.wikipedia.org] (fig. 2).

Pollution is a serious problem to the environment. Pollution is the contamination of the environment. Efforts to improve the standard of living for humans have started a very serious problem. There are many different kinds of pollution. Some are more of a problem than others. One of those is water pollution. Another is air pollution. Sound pollution is a type of pollution that is not much of a problem. Even so, all types of pollution are bad for the environment.

Unfortunately, pollution is something that many people cause each day. Simply turning on the engine of your car causes pollution. Businesses can cause pollution too! They can make mistakes and things accidents like oil spills result in those mistakes Carelessness is why people litter; it can also cause other types of pollution [library.thinkquest.org].

Pollution insurance is a type of insurance which offers assistance with the economic costs associated with pollution. These costs can range from liability suits associated with pollution to regulatory charges for polluters.

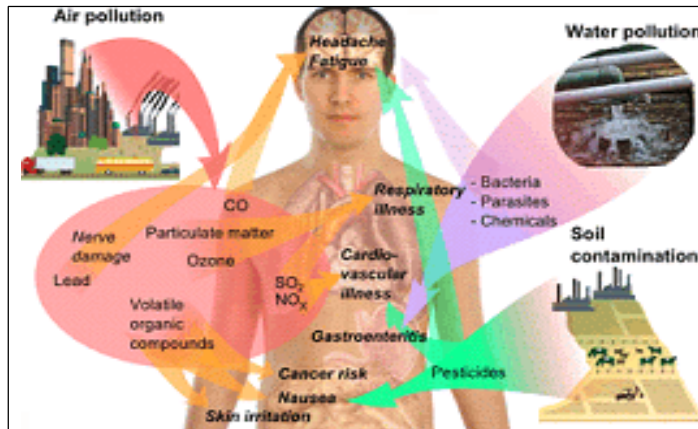


Fig. 2. Health effects of pollution

This specialty insurance is offered by a limited number of insurance companies, and it varies widely in cost and scope. For the most part, it is aimed at companies involved in polluting industries, such as oil refineries, although pollution insurance for contractors and more ordinary businesspeople is also available." [www.wisegeek.com]

We often talk about the harm\$ of pollution but do you know what pollution actually is? Before we can understand how to control environmental impacts caused by various forms of pollution we must first start at the beginning with the basics to understand what exactly pollution is and where it comes from.

The official definition of pollution, as defined by Webster's Dictionary is "the introduction of harmful substances or products into the environment." Basically, any time a foreign substance is introduced into an environment, particularly a contaminant or toxin, that produces some kind of a negative or harmful impact on the environment or living beings is considered pollution.

Pollution occurs in many forms ranging from chemicals in the form of gases or liquids, noise, energy sources such as light or heat, or even solids such as the types of waste that end up in landfills. Even substances that occur naturally can be considered pollution when additional quantities are added to the environment in unsafe amounts, such as is the case with

carbon dioxide and mercury which although there can be some natural sources of these elements, elevated levels produced by industries can have catastrophic effects on the environment and all forms of life including humans." [www.brighthub.com]

Our lifestyles include cars, fast food, disposable items (for example, paper plates and plastic baggies), newspapers, air conditioning, household appliances (for example, microwaves and hairdryers), and many other items that make our lives safer, easier, and more comfortable. Unfortunately, pollution is often a consequence of producing, using, and disposing of these goods. Waste is unwanted or discarded material and when it is released to the environment, it becomes pollution. Pollution is generated by industries, agriculture, businesses, schools, vehicles, and even our homes and if not properly handled, can contaminate our soil, water, and air.

Once pollution is generated, it is generally here to stay. Even if it is properly disposed of, wastes or pollution can migrate into the earth's environmental media, including soil, water, and air. Although these environmental media may seem separate, they interact in ways that are not all ways apparent. The pollutants in each medium can move to or from any other medium. For example, pollution released to the air can fall to the ground and contaminate soil which can leach into aquifers, which are underground sources of water for

communities that get their drinking water from wells. When we try to clean up pollution after it is generated, sometimes we just end up moving the pollutant from one medium to another. The scenario below illustrates problems that may occur when pollution is produced. This fact sheet introduces the concept of preventing pollution before it is produced and therefore reducing the need to clean up pollution in the environment." [www.epa.gov]

1.2. What is environmental pollution ?

Although pollution had been known to exist for a very long time (at least since people started using fire thousands of years ago), it had seen the growth of truly global proportions only since the onset of the industrial revolution during the 19th century.

The industrial revolution brought with it technological progress such as discovery of oil and its virtually universal use throughout different industries.

Technological progress facilitated by super efficiency of capitalist business practices (division of labour, cheaper production costs, overproduction, overconsumption, overpollution) had probably become one of the main causes of serious deterioration of natural resources.

At the same time, of course, development of natural sciences led to the better understanding of negative *effects* produced by pollution on the environment.

Environmental pollution is a problem both in developed and developing countries. Factors such as population growth and urbanization invariably place greater demands on the planet and stretch the use of natural resources to the maximum.

It has been argued that the carrying capacity of Earth is significantly smaller than the demands placed on it by large numbers of human populations. And overuse of natural resources often results in nature's degradation.

It is interesting to note that natural resources had been stored virtually untouched in the Earth for millions of years.

But since the start of the industrial revolution vast amounts of these resources had been exploited within a period of just a couple of hundred of years at unimaginable rates, with all the waste from this exploitation going straight in to the environment (air, water, land) and seriously damaging its natural processes." [www.tropical-rainforest-animals.com]

Environmental pollution is a broad concept which includes pollution of various biological and physical components of the planet as a result of human activities. On the basis of this definition, environmental pollution can be categorized into various types. When we talk about the different types of environmental pollution, the first thing that is likely to come to your mind is pollution of air, water, and land. However, the fact is that environmental pollution includes much more than the pollution of land, water and air. Other important attributes of environmental pollution include noise pollution, thermal pollution and radiation pollution as well. These environmental issues are much more serious as these pollutants are being dumped in the environment at a much faster rate than the rate at which the environment can accommodate them [www.buzzle.com]

Heavy metals are metallic elements that are present in both natural and contaminated environments. In natural environments, they occur at low concentrations. However at high concentrations as is the case in contaminated environments, they result in public health impacts. The elements that are of concern include lead, mercury, cadmium, arsenic, chromium, zinc, nickel and copper. Heavy metals may be released into the environment from metal smelting and refining industries, scrap metal, plastic and rubber industries, various consumer products and from burning of waste containing these elements. On release to the air, the elements travel for large distances and are deposited onto the soil, vegetation and water depending on their density. Once deposited, these metals are not degraded and persist in the environment for many years poisoning humans through

inhalation, ingestion and skin absorption. Acute exposure leads to nausea, anorexia, vomiting, gastrointestinal abnormalities and dermatitis." [www.unep.org]

Environmental pollution is contamination of air, water and land from man-made waste. Pollution leads to depletion of the ozone layer, global warming and climate change. Air pollution is the release of chemicals and particles into the atmosphere. Water pollution includes surface runoff, leakage into groundwater, liquid spills, wastewater discharge and littering. If toxins are spilled on the ground or if an underground storage tank leaks, soil can become contaminated. Well known contaminants include herbicides and pesticides. Toxic waste is waste material, often in chemical form, which pollutes the natural environment and contaminates groundwater [www.chicagotribune.com].

Environmental pollution is often divided into pollution of water supplies, the atmosphere, and the soil. In his book *Environmental Chemistry*, Stanley Manahan lists several different types of pollutants, including toxic inorganic and organic compounds, high concentrations of normally innocuous compounds, and heat and noise. While much pollution is produced by the chemical industry, domestic sources include human waste and automobile exhaust.

While physical sources, such as noise and light, of pollution are important, people most often notice the damage of chemical pollution on animals and plant life. These chemicals can react with tissues in the body and change the structure and function of the organ, cause abnormal growth and development of the individual, or bind with the genetic material of cells and cause cancer. The study of the effects of poisons on the body is called toxicology. One of the central tenets of toxicology states that the dose of a chemical determines its overall effects and that most chemicals can be dangerous at high exposures.

Individuals and chemical and petroleum

companies contribute to the pollution of the atmosphere by releasing inorganic and organic gases and particulates into the air. The atmosphere is a paper-thin layer of gas (representing 1 percent of the mass of Earth) that protects the planet from damaging cosmic and ultraviolet radiation, contains life-giving oxygen, and allows the efficient cooling of the planet [www.chemistry-explained.com].

1.3. Pollution caused by factories

Factory pollutants include water pollutants, (commonly including phosphates, asbestos, mercury, nitrates, grit, caustic soda and other sodium compounds, sulfuric acid, sulfur, oils and petrochemicals), solid waste pollutants (including gypsum, metals, cement, abrasives and poisonous solvents, components in adhesives, plastic wrap and various lubricants), and also air pollutants (including carbon monoxide, sulfur oxides, chlorofluorocarbons, hydrocarbon gases and nitrogen oxides) [greenanswers.com].

Factory related pollution is the number one source of pollution in the United States. Factory pollution accounts for more than half the volume of all water pollution, as well as for the most deadly of pollutants. More than 365,000 manufacturing factories consume vast quantities of fresh water to carry away wastes of several different types.

This waste water from industrial factories is discharged into lakes, oceans and streams, which eventually disperse the polluting effluent substances. The United States Environmental Protection Agency stated in 1996 to Congress that about 40% of the country's surveyed rivers, estuaries and lakes were too polluted for such elementary uses as swimming, fishing and drinking water-supply.

Common factory-emitted water pollutants include phosphates, asbestos, mercury, nitrates, grit, caustic soda and other sodium compounds, sulfuric acid, sulfur, oils and petrochemicals (Fig. 3).



Fig. 3. Pollution caused by factories

Additionally, many manufacturing factories discharge undiluted poisons, corrosives and other completely noxious substances. Construction related factory discharge includes gypsum, metals, cement, abrasives and poisonous solvents. One dangerous type of contaminant that has been entering the food chains are the polychlorinated biphenyl compounds, which are components in adhesives, plastic wrap and various lubricants.

In other findings, power plants cause thermal pollution when they increase water temperatures. These increases of temperature affect the amounts of oxygen that are suspended in a volume of water. Changing the oxygen levels of water disrupts the ecological balance of a body of water. This can kill of animal and plant species, at the same time it encourages the overgrowth of other plant and animal species.

Contaminants of the air are classified as gases and particulates. Particulates are tiny particles which are further grouped by their sizes. Generally speaking, the smaller the particulates are of a noxious substance, the more dangerous it is because it will be able to travel more deeply into the airways of those that breath it in.

Factory pollution includes carbon monoxide, which is mainly produced in combustion processes. Though most carbon monoxide pollution comes from motorized vehicles, there are also many combustion driven power plants still in operation today.

Factory pollution also includes chlorofluorocarbons, which have been shown to destroy the ozone layer. Hydrocarbon gases and nitrogen oxides are also frequently emitted by industrial factories. Nitrogen oxides combine with hydrocarbon gases to produce what is known as “smog”.

Sulfur oxides cause acid rain and comes from the burning of fuel that contains sulfur. Sulfur oxides are mostly produced at power plants or even combustion-driven power plants. There has been a 33% decrease in sulfur oxides emissions between the years of 1983 and 2002. This reduction in sulfur oxide pollution is believed to be due to state restrictions.

Tropospheric ozone is another type of pollutant that is another product of two factory pollutants. This type of ozone is created when nitrogen oxides interact with hydrocarbon gases. In the stratospheric level, ozone reduces the amount of ultraviolet radiation that reaches the earth's surface. Yet at lower levels it is an irritating gas.

Other types of pollutants that are known products of factory waste include volatile organic compounds like solvents, gasoline, petroleum products and cleaning solutions.

Over time, the typical industrial factory has been fitted with various types of pollution control devices that are designed to minimize the amount of contaminants that are released into the air or water. While these and other means of decreasing pollution are somewhat effective, the pollution problem continues to be an increasing area of concern [www.articleclick.com].

Factory pollution is considered the main source of pollution in many parts of the world in terms of water, air and soil damage. Vast quantities of fresh water are consumed by numerous factories simply to wash away their waste, and the factory pollution has reached such an extent that there are hardly any rivers, lakes or estuaries that are safe for people to bathe, fish or use as primary water supply. Though environmental regulations have become a lot harsher during the last few years, it is nevertheless true that the problem of global warming and the constant deterioration of the living conditions on earth does remain more actual than ever.

Another troublesome factor of factory pollution refers to the thermal damage power plants cause to the environment. They increase the normal temperature of the waters which is directly connected to the quantity of oxygen present in a certain volume of liquid. When such a thermal imbalance occurs, entire ecosystems suffer the consequences: from this point of view, factory pollution is responsible for the mutations in the size of species and the extinction of the more fragile or sensitive organisms. So far, the overgrowth of plants and animals in areas affected by this type of factory pollution has been signaled on a repeated basis.

Factory pollution is also the one responsible for the creation of the smog in heavily industrialized city areas. Gases and particles are the noxious chemicals we breathe in the industrial parts of our cities:

the artificial chemical fog that often shrouds metropolitan areas is responsible for the many lung and respiratory problems so many people develop. Factory pollution constantly damages the ozone layer, leaving the earth and all life forms unprotected against the harmful cosmic radiations. From a certain point of view, the earth may seem without perspective given the fact that no shutting down of factories is in view or even slightly possible [www.healtharticles.lk].

1.4. Pollution caused by factories in Turkey

When a small country located between the cities of Kocaeli of Turkey in terms of land area in the industry has a large share. Kocaeli Province, rural migration to urban areas and as a result of the rapid and corrupt construction, inadequate infrastructure, the most important cause of pollution. In addition, air pollution in Ontario is one of the major cities are experiencing. The biggest causes of air pollution in the province, for heating fuels, motor vehicles and industrial pollutants.

Air pollution. Industrial air pollution in the province, from flue gases of industrial pollutants and other contaminants-due to the shape and type of organic and inorganic. Most of metal that creates more pollution, chemicals, paper, petroleum and petroleum products sector organizations in the industry.

In the past years Dilovasi Gebze and the PM (Particulate Matter) and 802 (sulfur dioxide) measurements in February Gebze maximum value of PM 69 mg/m³, 55 mg/m³ Dilovasi in August, the species. Maximum value of 802 in February Gebze 218 mg/m³, 152 mg/m³ were found in January in Dilovasi.

Dilovasi, especially metal, paper and chemical industry, environmental pollution caused by the addition of noise and visual pollution reaches alarming proportions. From previous warnings were ignored by the authorities has reached the stage today for the line.

Dilovasi environmental pollution is threatening the environment has become resorts. Poor living conditions, heart diseases and cancer has led to an increase in Dilovasi.

What can be done ?

1. Dilovasi resort the use of natural gas soon as interlaced.
2. Factories filter must be installed chimneys.
3. Dilovasi pit is in area, established systems to ensure clean air flow.
4. Environmental pollution map should be removed.
5. Air pollution measurements should be done.
6. Green areas should be increased.

Visual pollution. Ease of transportation around the industrialization of the city's first phase, the E-5 highway and the residential settlement pattern and accordingly led to the formation of the north and south, and around factories. Dilovasi in plain stuffed up, has developed as a result. In short, the city, north, northeast and northwest toward the town of Gebze, the correct placement of the developed west is widening.

Due to the increasing industrialization and population growth have resulted in building industrial-residential placement intertwined. This narrow urban roads, parking problems caused by high and green spaces have been inadequate. The first stage of development the industry has reached high levels in accordance with the squatters. Fast construction characteristics of buildings at any time by the effect of making additions and renovation ideas have prevented the completion of the building aesthetics, and many of these buildings is very difficult to control.

Industrial pollution is worse than the reflection of the image. At many factories, including factories in the slag Dilovasi external appearance, the release layers of smoke, waste and scrap piles left Dilderesi river pollution is caused by the image. yolakoglu factory owned thermal power plant pollution alone monument of the image state. Dilovasi plain dump waste into the mountain stone exterior views of their own businesses in these factories do not give importance to the image Dilovasi do their best to contribute to pollution.



Fig. 4. Visual pollution

What can be done ?

1. Display the aesthetics of buildings are arranged to break.
2. Modern housing estates should be done.
3. External view the factories Neglected should reorganize themselves.
4. Thermal power plants should be removed.
5. Green areas should be increased.

Sound pollution. Industrial and residential areas, and together they created the problems caused by industrial areas next to the demonization of noise dimensions. Large organizations that require the use of sound pollution caused by the fact that both the workers and factories function and creates a negative impact for residents. The main source of noise pollution in the town of Dilovasi yolakoglu factory. This factory is the noise in 2 ways to disrupt the psychology of the people of Dilovasi.

Noise sources in the form of thermal power plant with noise from quarries in the factory. First it was established that sounds like the power plant at night when the fighter planes that was out of deposits of the people of Halfway. Intense reaction of the people as a result of recently installed in the chimney that sounds less than before.

There is the sound of the quarries in the factory for miles. Extremely annoying, especially at night, the noise increases the sonorous ovens working night and day.



Fig. 5. Sound pollution

What can be done ?

1. Industry bodies should be kept in normal level of noise limits.
2. Thermal extraction of the shaft prevented the sound.
3. The Land and the people sitting near railroads made aware of noise pollution.

Water pollution. One of the factors that most influence regional Dilderesi stream pollution. More than 25% of the factors causing pollution of the Gulf of Izmit Dilderesi River pollution, uncontrolled waste is thrown.

Now he has come to renew the Gulf of Izmit.

Live cultivars decreased rapidly in the Gulf of Izmit industrial and domestic wastewater treatment systems were charging proceeding constitutes a very big problem.

Dilderesi River is situated in the edge of a multi-industry company is a chemical waste treatment has never been subject to discharge without holding Dilderesi River.

What can be done ?

1. Industry bodies give up a moment ago is charging waste Dilderesi River.
2. Dilderesi River poured household waste should be subjected to purification.
3. Gebze disposal facility involved in the dirty waters of the solution must Dilderesi River.



Fig. 6. Water pollution

Conclusion

Century, technology and production has become inevitable. Excessive increase in world population, production, facilitation, technical, and methods of obtaining raw materials, processing and development of new products and increasing demand for various reasons such as our world has become a big factory.

All of these developments and increase our life extremely easier, almost, just about everything that has made possible the rapid and practical. Of course, these people live life to the highest standards, if we consider the necessary things in terms of present-day conditions. However, the production and industrialization are necessary, justified does not mean that industrial source of environmental contaminants. On the one hand makes it easy life, polluting our world, the world, making the planet for future generations to live in a difficult situation is not good at all.

First of all, with the old times, ecosystems renew themselves, get rid of the thoughts that the world is absurd, such as self-renew, thinking how ridiculous this is something the so-called ozone layer, a few holes, and it is caused by global warming and the climatic disasters already showed abnormalities.

These issues are very simple things to be done. Than the planning stage of the facilities, the environment, in accordance

with the least damage possible should be built given. Activity may be possible in the least damaging way for the duration of the operation, renewal, maintenance or performance of those who back the anti-technology, support for removing or mitigating measures, need to be strengthened. Facilities on-site, on time and material costs in the right way, we live in our world, our lives is more valuable?

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