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Environmental pollution and ways to reduce contamination with use of environmental engineering techniques in metropolises of developing countries

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Abstract
Environmental pollution comes from a variety of sources. With the advancement of human civilization and the development of technology and population growth, now the world is facing a problem called pollution in air and land, which threatens the lives of the world's inhabitants.
One of the current crises is environmental pollution, which mostly is considered to be the result of the technology, industrial and agricultural development expansion. If there is no control over the Progressive and exponential growth of this phenomenon, we will face an environmental catastrophe and disaster. In a simple definition, environmental pollution is any change in the Features of environmental components, i.e. water, soil, air, etc., so that it is impossible to use them optimally and endangers the lives of living organisms directly or indirectly.
Access to healthy and adequate food, drinking water and clean air is the most obvious right of all humans, and the production and provision of these needs for citizens is an inherent duty of all governments. On the other hand, preserving the environment along with agricultural and industrial production activities is very important. The issue of environmental pollution and the creation of a sustainable environment is the main concern of all humans on earth.
Fortunately, with the use of biotechnology and the available capabilities in nature, the Environmental damage rate can be minimized. One of the environmental needs around us is to maintain and control it from all kinds of pollution, destruction and misuse of nature. Environmental pollution occurs in various ways which requires the use of new engineering methods to protect and control environmental pollution. Today, environmental engineering and environmental control is one of the key and vital issues in human life.
In the present article, the impact of pollution on environmental factors such as climate, sound and noise, traffic, etc. on the environment, as well as ways to reduce pollution with the help of environmental engineering techniques have been studied.

Keywords: pollution, environment, environmental engineering, pollution reduction, developing countries

Introduction
The environment in a general definition, is the set of external conditions that affect a living being, such as a human, during or during life. From a global perspective, water, soil, and air are the three major components of the human environment, and any contamination of them is considered environmental pollution and should be noticed. Increasing population growth, increasing demand for food and other human needs, the development of the tourism industry and the expansion of urbanization phenomenon and the intensification of environmental pollution (water, soil and air and, etc.) have seriously endangered the health and life of living organisms, especially humans [14].
Environmental pollution is the presence of one or more pollutants in the environment in a quantity and time that changes the quality of the plant in a way that is harmful to humans, animals and plant. Pollution is any change in the structure of environmental resources that makes it impossible to use in the future and endangers the lives of other living things.
Environmental pollution comes from a variety of sources; environmental contaminants are substances that are present in the environment more than standard level in such a way that it has a negative effect on all living things.
The issue of environmental pollution so far has been much discussed. Recently, countries around the world have reached an agreement i.e. to reduce the use of fossil fuels and replace them with clean energy such as wind and solar. However, still there are a fact about pollution that need to be addressed.
The society in which we live today attaches great importance to industry and follows it seriously. Therefore, the pollution caused by this issue is increasing day by day and affects the world around us. Many metropolises in developing countries are facing the problem of environmental pollution issue and are trying to find a suitable solution.
So that, in any country, environmental protection is a serious concern for government officials. Today, the environmental situation is so intertwined that people in one city or even one country are not immune to the effects of pollution in another city or country. A clear example of this is the emergence of the phenomenon of transmission and spread of coronavirus, which has spread all over the world and caused physical, mental, economic, psychological, psychological and social damage to all countries of the world.
Other examples of environmental pollution include snowfall in Norway, which is caused pollutants that its source is from United Kingdom and Germany. Or acid rain in Canada is the result of pollutants originating in the United States. In Athens, they are sometimes forced to close factories and restrict car traffic due to

severe air pollution. Other cities in the world, such as Mexico City, Rome, and especially the metropolises of developing countries such as Tehran and Delhi, also face the problem of air pollution, of course, pollution of the seas, rivers, lakes and oceans, and forests, and their impact on the environment, are also the subject of serious issue. Air is one of the five essential elements (air, water, food, heat and light) for human survival. Due to the expansion of cities and the increase in air pollution sources, the air in most of metropolis of developing countries and industrial cities is polluted, and due to the dangers of this pollution to the health of living people in polluted areas, knowledge and awareness of various aspects of this issue is very important. Water also plays an essential role in the survival of human life, it is also highly capable of transmitting a variety of diseases and ailments if contaminated and Polluted.

Environmental pollution is an unfortunate consequence of technology and destructive human activities that threaten the lives of living things and pose many challenges to human life. In the meantime, by raising awareness, increasing the sensitivity of public opinion and changing cultural patterns, we can fight against this problem and thus prevent the destruction of the ecosystem [14].

One of the needs of the environment around us is to maintain and control it from all kinds of pollution, destruction and misuse of nature. Engineering and controlling the environment around life is one of the key and vital issues in human life. Environmental pollution occurs in various ways.

With the advancement of human civilization and the development of technology and the increasing population, the world is currently facing a problem called air and land pollution that threatens the lives of the world's inhabitants, which requires the use of environment and new engineering methods in conservation and control of pollution.

Environment

Environment is a combination of different sciences in science that includes a set of biological and environmental factors in the form of environmental and non-biological (physical, chemical) that affect the life of an individual or species and are affected by it. Today, this definition is often associated with man and his activities, and the environment can be summarized as a set of natural factors on Earth, such as air, water, atmosphere, rock, plants, etc., that surround man.

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The difference between the environment and nature is that the definition of nature includes a set of natural, biological, and non-biological factors that are considered exclusively, while the environment phrase is described in terms of the interactions between man and nature and from a human point of view [9].

The environment, in a general sense, is the set of external conditions that affects a living being, such as a human during his life. From a global perspective, water, soil, and air are the three major components of the human environment, and any contamination is considered environmental pollution and should be noticed.

The growing population, increasing demand for food and other human needs, the development of the tourism industry and the expansion of urbanization phenomenon and the intensification of environmental pollution (water, soil and air) have seriously endangered the health and lives of living organisms, and particularly humans. Therefore, in this paper, the sources of air, water and soil pollution and the effects of these pollutants on the environment are studied. Air is one of the five essential elements (air, water, food, heat and light) for human survival.

Due to the expansion of cities and the increase in air pollution sources, the air in metropolitans and industrial cities of developing countries is polluted, and due to the dangers of this pollution to the health of people living in polluted areas, Cognition and awareness towards various aspects of this issue is very important. Water, also as another environmental factor, due to its fundamental role in the survival of human life, if be contaminated, has a great capability to transmit a variety of diseases and ailments.

Environmental Pollution

Contamination refers to the entry of pollutants into an environment that causes instability, disruption, damage, or discomfort to living organisms. Contamination can be in the form of chemicals or energy such as noise, heat or light. Contaminants that follow natural events are known to be pollutant when they exceed the normal range. Pollution is the introduction of substances or energy by humans into the environment, including air, water or land, that causes adverse changes in the physical, chemical and biological features or properties of the environment and vital resources, health and human activity and other living organisms face danger. Pollution is a physical and biological component of the Earth's or atmospheric system in which environmental processes are usually affected negatively by their surroundings. Environmental pollution is one of the most serious human problems on our planet today. "In fact, any use of natural resources at a rate higher than nature's capacity to regenerate itself can lead to air, water and land pollution [5].

Environmental pollution is an undesirable change in our environment. This is entirely or largely the result of human action, and is mediated by the direct or indirect effects of changes in energy patterns, radiation levels, chemical and physical processes, as well as the abundance of organisms. Environmental pollution is a global problem and is common in developed and developing countries, and it attracts human attention due to its long-term dire consequences.

Environment quality reduction is a consequence of pollution. This is evident in the disappearance of vegetation, biological diversity, excessive amounts of harmful chemicals in the environment and in grain, as well as an increased risk of environmental or even life-threatening threats. Pollution is seen from different angles and by different people. It is commonly agreed that this is the result of the industrial and technological urban revolution, the rapid exploitation of natural resources, the increase in the exchange rate of material and energy, the increase in industrial waste, municipal wastewater and consumer goods.

Pollution is often categorized into two types: pollution with point-to-point source and non-point-to-point pollution. The first type is for example water pollution, which originates at a point to

point source such as a sewer outlet. The second type refers to contamination from a large area and not from a specific location. The society in which we live today attaches great importance to industry and follows it seriously. As a result, pollution from this problem is increasing day by day and affects the world around us. Many monopolies of developing countries face the problem of environmental pollution and are trying to find a suitable solution.

Environmental Engineering

The environmental industry is one of the fastest growing industries today, population growth, urban expansion, economic and industrial development, and increasing resource consumption in recent decades causing many environmental problems around the world. Reducing biodiversity, deforestation or forests and vegetation destruction, soil erosion, water, soil and air pollution, greenhouse gas emissions and climate change are among the most important environmental challenges in the metropolis of developing countries. Therefore, the strategy of environmental protection and sustainable development is a fundamental goal to improve and maintain the indicators of human life. The use of various sciences and technologies in the field of sustainable evaluation and management of renewable and non-renewable resources can help reduce or solve environmental problems. Protecting the environment and achieving sustainable development at the local, regional and global levels is an essential goal for improving human living conditions. To achieve this goal, it is necessary to increase the science and knowledge of the environment by developing and presenting comprehensive and efficient training courses. In this regard, environmental science and engineering with an interdisciplinary approach is trying to identify environmental issues and planning and implement the necessary measures to address them.

Therefore, the strategy of environmental protection and sustainable development is a fundamental goal to improve and maintain the indicators of human life. The use of various sciences and technologies in the field of sustainable evaluation and management of renewable and non-renewable resources can help reduce or solve environmental problems.

The environment conservation and achieving sustainable development at the local, regional and global levels is an essential goal for improving human living conditions. To achieve this goal, it is necessary to increase the science and knowledge of the environment by developing and presenting comprehensive and efficient training courses. In this regard, environmental science and engineering with an interdisciplinary approach is trying to identify environmental issues and Planning and implementing the necessary measures to eliminate them [1].

nvironmental engineering is a multidisciplinary field that requires the combination of physical, chemical, and biological principles with engineering analysis to protect and restore the environment. The field of environmental engineering combines' courses from various departments to create a program that has a strong foundation in science and engineering.

Interdisciplinary disciplines are a bridge between two or more disciplines, one of the goals of which is to make science more practical. Environmental engineering, meanwhile, is a multidisciplinary field that requires the integration of physical, chemical, and biological principles with engineering analysis to protect and restore the environment.

Environmental engineering is a branch of the environment that using scientific and engineering principles tries to protect the environment (both domestic and global) against the adverse effects of natural factors and the potentially harmful effects of natural and human activities and to improve the quality of the environment.

There is also an orientation in environmental engineering in the field of civil engineering, but the Environmental Engineering Science program provides a broader foundation than that in civil engineering.

Environmental engineering deals with the principles of engineering, soil science, biology, and chemistry to solve environmental problems (water, soil, and air) that are being studied in environmental engineering.

Environmental science is a combination of biological, geological, physical, chemical, social, and cultural sciences that interacts with the life of an individual or society. Environmental problems can be attributed to various factors, including overpopulation, climate change, and habitat fragmentation. Many of these problems are caused by human performance, and of course, these problems also endanger human health.

The problems facing the environment today cannot be solved only with science and knowledge, but with an equal exploration and knowledge of culture, sociology, economics, politics and ethics, can try to solve it that in this direction environmental engineering is very effective.

Types of Environmental Pollution

Today, all human, wherever they live, are interdependent in their use of the environment. Environmental pollution knows no boundaries, and if it occurs at one point, it will spread to other places. The use of fossil fuels such as oil, gas and coal are the main causes of environmental pollution. As the world becomes more industrialized, as the need for these fuels increases, environmental pollution is also increases. Over the past two decades, extent of carbon dioxide emissions, which is a major cause of air pollution, greenhouse gases or emissions, and abnormal warming of the atmosphere, have doubled, and if the necessary action is not taken to prevent pollution by optimizing energy consumption emissions will increase by at least 50 percent over the next 20 years particularly in metropolitans of developing countries.

For this reason, in recent years, due to the pollution situation crisis, efforts have been made to take action to reduce energy consumption and consequently, reduce pollution in exchange for the production unit in the industries based on the latest technological advances especially in industrialized and developed countries. Identifying the different ways of environmental pollution enables us to, in addition to taking direct and effective action to eliminate or reduce pollution, by using energy-saving methods in the relevant unit, Reduce environmental pollution.

The types of environmental pollution and its harmful effects is mentioned in this article, as well as the different types of pollution such as air, water, soil, sound, light, chemical, radioactive, as well as the destruction and pastures of forests and harmful effects of each is one of the topics that are discussed [12].

Some of these pollutions, especially air pollution in metropolis are one of the most important environmental issues in the field of human biology area in developing countries. Given that air

pollution, endangers human life directly or indirectly, it is necessary and imperative by paying more attention to this issue, appropriate solutions be considered.

Pollution is any change in the structure of environmental resources that makes it impossible to use in the future and endangers the lives of other living things. Environmental contaminants are substances that are excessively and more than standard level in the environment to adversely affect all living organisms. In general, pollution is divided into several main categories, which are: water pollution-air Pollution-Noise Pollution -Soil Pollution-Magnetic Pollution-Visual pollution and…. etc.

Air Pollution

Air pollution is a change in the natural characteristics of the atmosphere due to chemicals material, micronutrients, or biological factors. Air pollution is more deadly than any other pollution. After that, water pollution is the second leading cause of death [3].

Air pollutant sources include:

1. Infectious sources caused by human activities
2. Natural pollutants (storms, dust, dust mites, etc.)
3. Human activities: The most important pollutants produced by human activities are water vapor, methane gas, carbon dioxide, and so on. Other human pollutants include:

Carbon monoxide

II.Sulfur dioxide

III.Nitrogen dioxide

IV.Chlorofluorocarbons

Ozone tropospheric

VI. Ammonia

The main sources of pollution in metropolitan areas are resources from human activities, in which mobile polluting sources and then fixed polluting sources are a priority. Among the sources of mobile pollutants, motor vehicles are a priority.

Water Pollution

One of the causes of groundwater pollution and drinking water resources is the increasing development of cities. Horizontal development of the city has led to sustainable water resources (fountains and aqueducts) [2].

The most unfavorable effect of the horizontal expansion of cities on aqueducts is the lack of attention to their privacy during constructions, which destroys the aqueducts and removes them from the water supply cycle, and they are used as conduits to transport urban sewage.

Also, the uncontrolled and irregular exploitation of water from underground sources has led to a significant reduction in the volume of these waters. Water pollution refers to the chemical or microbial contamination caused by the release of sewage and industrial chemicals materials into the waters of rivers, seas and oceans.

Other causes of groundwater pollution include absorption wells and their leakage into groundwater aquifers. High concentrations of nitrate, chloride and sulfate pollutants in wells located in urban areas within the city limits indicate that groundwater pollution has been started since the city's urban irregular expansion that is due to urban population increase and horizontal development of the city's suburbs.

The highness of Nitrate, Chloride and sulfate contaminants density in groundwater is due to their presence in detergents that have entered the city's groundwater aquifer through sewage leaks.

Soil Pollution

Soil pollution is a type of soil erosion caused by the presence of xenobiotic chemicals or other changes in the soil. The main causes of soil pollution are industrial activities, agricultural chemicals materials and waste disposal. Multi-layered aromatic hydrocarbons such as naphthalene, petroleum hydrocarbons, solvents, heavy metals such as soil pollution is a type of soil erosion caused by the presence of xenobiotic chemicals or other changes in the soil.

The main causes of soil pollution are industrial activities, agricultural chemicals and waste disposal. Multi-layered aromatic hydrocarbons such as naphthalene, petroleum hydrocarbons, solvents, heavy metals such as lead and mercury, and a collection of herbicides and pesticides are the most important soil contaminants. Soil pollution is directly related to the rate of industrialization and the use of chemicals. Lead and mercury, and a collection of herbicides and pesticides are the most important soil contaminants [5].

Due to various human activities, especially the improper disposal of municipal wastewater, the soil becomes polluted. In many cases, these contaminants occur as a result of an accident involving vehicles carrying contaminants. Other soil pollutants include fuel vehicles, which can cause soil pollution by spilling fossil fuels. Among the human causes of soil pollution, we can mention the release of toxic substances such as solvents, dyes and detergents, etc., which lead to soil pollution.

Soil pollution is directly related to the rate of industrialization and the use of chemicals. Soil becomes polluted due to various human activities, especially the improper disposal of urban wastewater. In many cases, these contaminants occur as a result of an accident involving vehicles carrying contaminants. Other soil pollutants include fuel vehicles, which can cause soil pollution by spilling fossil fuels.

Soil pollution Sources

Today, among the sources of pollution, the following are the most important causes of biosphere pollution and soil:

1. Soil pollution sources
2. Active Mines (Industrial Pollution)
3. Fossil fuel consumption (oil pollution)
4. Fertilizers and Agricultural pesticides

The following is a brief overview of these pollutants:

1. We are currently facing severe soil and water resources pollution due to overproduction of waste, improper collection and incomplete recycling of household, industrial, hospital waste, industrial wastewater, municipal wastewater and construction waste and landfills on the outskirts of cities.
2. Motor vehicles, on the one hand, pollute the air by producing carbon monoxide, and on the other hand, oil, rubber chips, and brake pads containing asbestos destroy soil resources and the environment.
3. One of the problems of sewage and industrial waste that enters the soil is heavy metals. Heavy metals such as lead, cadmium, selenium, etc., which are stored in soil colloids,

are very dangerous and cause irreparable damage by entering the food cycle.[7]

4. Another case of soil pollution that can be mentioned is acid rain that is seen in industrial and densely metropolis that is due to pollution and smoke of factories. Acid rain is the worst type of soil pollution because it destroys forest cover firstly and secondly pollutes large amounts of water in the second place.
5. Pollution from agricultural activities
6. Oil pollution.
7. Industrial pollution from factories and mines

Industrial pollution

Rivers, which in addition to contaminating surface water and soil pollution, also leads to pollution, of groundwater resources. Smoke and pollutants that come out of the huge chimneys of factories in the form of gas and toxic fumes, in addition to polluting the air in metroplains and causing respiratory problems for humans, cause acid rain. Most of the pollution in soil resources is around oil refineries [12].

The strength and stability of heavy elements in the soil is very long compared to other pollutants and soil contamination by heavy metals is almost permanent. Heavy metals including lead, cadmium,

They are silver and mercury, which their harmful effects on living things have been proven and have caused many environmental incidents. Some of these harmful effects of heavy metals include: disturbance of biological soil activities, toxic effects on plants and harmful effects on humans due to the entry of substances into the food chain.

Garbage

Garbage is one of the most important sources of soil contamination. Garbage can seep into the ground and contaminate water resources. However, all developed countries consider waste to be dirty gold and add value to waste by recycling and producing compost. One of the most important and dangerous municipal waste is hospital waste, which is part of a patient's body tissue, needles contaminated with dangerous diseases, surgical razors for patients with AIDS, etc. Is collected. Burial of hospital waste pollutes groundwater.

The Effect of Detergents on the Soil

Detergents in wastewater increase soil permeability, and microorganisms and even molecules that normally cannot pass through soil filters will be able to pass through the pores of different layers of soil in the presence of detergents. And they cause microbial contamination of waters that are far away from the earth's surface. Among the different contaminants, detergent as an important pollutant has serious risks to soil and natural ecosystems. Furthermore, detergents can pass into the wastewater treatment plants and have bad effect on their performance. They are part of human life and consumed for different aims especially hygienic purposes. Therefore, detergent components can enter to soil and from different sources. Detergents affect fauna and flora, and they have direct and indirect effects on ecosystems. Eutrophication, foaming, and altering parameters such as temperature, salinity, turbidity, and pH are more important, and their effects need to be managed and controlled The presence of detergents in wastewater increases soil permeability, and microorganisms and even molecules that normally cannot pass through soil filters will be able to pass through pores in the presence of detergents, and infect microbes that are far away from the earth's surface [3].

Excessive use of detergents, especially in metropolitan areas of developing countries that are not equipped with a wastewater treatment system, can have a negative impact on the water body and soul of these metropolises. In areas where there is no wastewater treatment system and urban and rural wastewater enters rivers directly, detergents can have many destructive effects on both water and soil.

Agricultural Pollution

One of the major human concerns today is the contamination of agricultural soils with a variety of chemical pollutants, especially heavy metals, which are among the major challenges to agricultural development and therefore rural development. These pollutants, using a variety of organic and chemical fertilizers, municipal effluents, pesticides, insecticides, herbicides and many other agricultural processes that affect the soil locally, potentially hinder the development of agriculture and rural areas [9].

However, in order to gain more economic benefits, humans on the one hand are increasingly using pesticides and chemical fertilizers, and from other hand he started to pollute natural environments for obtaining industrial development or the disposal of chemical waste and factories 'industrial effluents. All agricultural chemicals materials contain additives, and although the toxicity of such additives is not high, but they can have side effects in nature.

Soil Erosion

The most important effects of human activities on soil are poisoning and erosion, which lead to the destruction and reduction of agricultural lands capacity. In general, soil erosion is a natural phenomenon caused by factors such as wind, surface runoff and temperature changes. However, human activities such as excessive farming over-cultivation, irrigation of agricultural lands, single product, crop rotation, overgrazing of livestock in pastures, deforestation and desertification will destroy the balance between the processes of destruction, soil creation and eventually contaminate it [7].

Improper agriculture and cultivation in agricultural lands, traditional irrigation method, use of pesticides and toxicants, inappropriate plowing, non-use of modern agricultural equipment and intensive planting are the causes of land degradation due to agricultural activities and intensify the process of soil erosion. Irregular agricultural and exploitation in sloping lands causes severe soil and soil erosion.

Soil Pollution - Soil intoxication can be caused by the increase of soil salts by agricultural machinery or its direct contamination by individuals or factories. In this case, poor and even toxic soil is created for the plants.

Pesticides

Extensive and uncontrolled use of pesticides in agricultural affairs, regardless of environmental issues, causes environmental pollution, especially water resources. The entry of chemicals and adverse elements into the water leads to chemical contamination, and because water circulates in nature, water pollution spreads rapidly. Mercury, lead, and toxic chemical material are among

the most dangerous water pollutants, and some of these substances remain in the environment for years, endangering the lives of animals and plants [12].

Chemical pesticides used in agriculture are considered important non-point sources of water and soil pollution. The presence of residues of these toxins in soil and water is very worrisome. The persistence of these toxins in the soil, as well as their uptake by plants and accumulation in plant tissues, will cause irreparable damage to the environment as well as to consumers of agricultural products.

Chemical toxins also cause contamination in the soil. These toxins do not break down easily and remain in the soil for many years.

Pesticides enter the soil in a variety of ways, including their direct application to the soil, spraying, and direct return of airborne toxins into the soil, the absorbed toxin at the surface of airborne soil particles and their settling on the ground and plant residues that are added to the soil and the absorbed toxins by living organisms' soil (non-particle)

Excessive use of pesticides and fertilizers, antibiotics and hormones in livestock and irrigation of farms with contaminated wastewater are agricultural factors affecting soil pollution.

Chemical fertilizers change the properties of the soil, i.e. reduce the permeability of the soil to air and water, and so-called harden the soils.

Noise Pollution

Another type of pollution that has physiological and psychological effects on humans is noise pollution, so because of reason noise pollution is very important. Noise pollution circumstance, is not very tangible and known to the general public alike air pollution, water and soil pollution, and…., etc. Probably a part of this issue's reason refers to its being invisible and also indirect relation with political and comical systems [8].

Today, there is a lot of discussion about environmental issues such as waste collection, air pollution prevention, wastewater collection and treatment, and many other things, and a lot of efforts are being made to reduce their harmful effects.

But there are many other issues that are not being addressed. Noise pollution is one of the things that is sometimes talked about, but no specific work has been done to reduce this type of pollution if it is considered a serious threat to the health of the environment and humans.

Noise is a term used to describe the state of sound at particular times. Sound is acoustic energy generated by moving or oscillating objects in space. There are many factors involved in the development of snoring, the following of which can be mentioned:

- Increasing urban population and subsequently using more equipment that will combine and intensify different sounds. - Road, rail and air traffic and its increasing number.

However, it should be noted that habituation to a type of pollution is not a reason of immune, rather, it means lowering the individual's sensitivity threshold and increasing physical and mental exhaustion, and even weakening the lives of living organisms, and continuing this process of noise pollution is not conducive to the life of organisms.

Harmful consequences of noise pollution on humans do not appear in the short term directly. But in the long run, it directly affects the human nervous system and its negative consequences occurs. One of the largest sources of this pollution is industry. This in itself can be considered in the design of metropolitan areas so that industrial centers be located far away from human habitation as much as possible.

Other causes of noise pollution include aircraft, that the construction of houses near airports could more expose humans to this pollution. Of course, this contamination affects not only humans, but also animals, as French scientists have discovered that roar of the aircrafts cause a temporary loss of sensation in the bee and prevent its activity, or it may break the sound barrier of a jet and kill the chicks.

Noise pollution is considered a social issue, but unfortunately it does not have much importance and significance in developing countries. The most important cause of noise pollution is the improper increase in the number of vehicles. Accordingly, airborne sound standards are considered to be the most serious major problems in metropolitans of developing countries.

Magnetic Pollution

In the last few decades, many technical advances, such as the use of microviews and mobile phones, have been very influential in our lives, and for example, life without electricity is inconceivable to us. Thus, living in a high-tech world means that we can no longer prevent the emission of electromagnetic wave [12].

With the rise of cable-free technical and communication equipment over the past two decades, public debate about noise pollution and its detrimental effects on human health has increased dramatically. Is this just a matter of creating fear in society, or is human health actually exposed to pollution by electromagnetic waves?

Although researchers have not commented on this, many people find themselves at risk.

Electrical pollution: The artificial creation of electric, magnetic, and electromagnetic fields is called electrical pollution. These fields are created in connection with high-voltage electrical currents and power lines, transmitting antennas, as well as general electrical devices.

The living environment is naturally composed of soil, air and water, as well as weak electric and magnetic fields. Heavy lightning creates strong magnetic fields. In mountainous terrain, when the air rises on the mountain, the high moisture content of an air mass leads to heavy rainfall in the windward part of the mountain.

In the back to the wind, as the air goes to the bottom of the mountain, due to compression, it is hot and dry, creating hot and dry winds, which can raise the temperature several degrees, especially in winter, within a few minutes.

The recent situation in which many people suffer from headaches is associated with the creation of intermittent electric fields up to 350 kHz. While the above currents are not permanent in nature and appear at different time intervals, the electrical pollution created by humans is in process continuously in 24 hours a day.

Due to the produced, explosive increase in artificial electromagnetic fields the relevant invisible pollution has multiplied several times in nature. At present, no authority can predict what dangers electrical, electromagnetic pollution will pose to human health and environment

In connection with environmental electrical pollution, low-frequency magnetic and electric fields should be distinguished

from high-frequency fields. Low-frequency magnetic fields include, for example, microwaves, televisions, and high-voltage electric field fields. In terms of high frequencies, we can mention mobile, cordless phones

Visual pollution

Anything that looks ugly to human beings and exacerbates this ugliness is called visual pollution, or in other words, the heterogeneous and inconsistent variety of colors and materials in the urban space and appearance is called visual pollution." Blockade of vision, pressure on the brain, stress, decreased thinking ability, depression and mood swings, boredom and mental fatigue, and dozens of other diseases and disorders that directly and indirectly affect people's health, all are the consequences of visual pollution [6].

Deprivation and lack of clear and blue skies caused by air pollution (Fine dust, cars and motor and diesels vehicles and, factories, etc.), billboards and advertising panels, pasting all kinds of advertisements, slogans and manuscripts on the door and the walls of buildings, houses, towers and high-rise buildings, Dormitories settlements, improper placement of prisons and penitentiaries, cemeteries, Tight and narrow alleys, lack of light, lack of tree herbal covering in of public thoroughfares and side and main streets, boulevards, Lack or per capita green space, lack of flower and ornamental plant cover and grass in the public space of the city, ugly facade Buildings and non-use of beautiful artistic and calm effects such as bricks, aluminum, glass, and stone (if it does not have an aesthetic theme and pattern), cables and wires and power lines, Garbage dumps and bins full of trash, Cats, dogs and stray animals in the streets, canals and passages, and saliva in public passages and the like are all known as visual pollution that affects the physical and mental health of citizens, As a result of these factors environment become contaminated and polluted in the metropolitan of some developing countries

Visual pollution as a sub-branch of environmental pollution is any kind of pollution that at first glance hurts the human eye and secondly distorts the human soul.

So that, it makes the person feel uncomfortable and mentally crammed. The result is damage to the brain and body over time and long-term. Of course, to consider visual pollution specific to developing societies and countries is far from the existing reality and it is unfair because in some metropolises of Western Europe, New York, East and Southeast Asia, this issue i.e. visual pollution is also may be observed.

A pervasive phenomenon resulting from the horizontal and vertical growth and expansion is of the last manifestation of human civilization (cities). But the difference is in the intensity and type of management. In most advanced cities, things can be controlled in the area of urban management. But in the metroplains of developing countries, in some dimensions and angles, the city has become an unhealthy and unbearable place that if no action is taken against such Visual pollution and do not improve the situation in the future the urban environment will be destroyed and become an abandoned city.

Visual pollution which can be seen at the metropolitan's level in the long run causes mental distress and mental illness. We encounter all kinds of advertising images in the streets of the city, and review them in our minds on a daily basis.

But we may not be aware that this visual onslaught causes mental confusion. And it reduces our mental focus. Visual pollution is one of the main reasons for the decrease in work efficiency among citizens, in other words, many conflicts and disputes take place in the city, under the influence of environmental urban pollutants, especially visual pollution.

Pollution

Environmental pollution caused by traffic is one of the issues that is increasing in most countries of the world, especially in developing countries. The rapid growth of cities, the increasing number of vehicles, and the need to traffic to cover requirements have polluted the metropolises of developing countries. Most metropolitans' areas in these countries face the problem of environmental pollution caused by traffic.

The growth of cities in the last two or three decades has led to an increase in the number of vehicles, this has become an important environmental concern, especially in metropolitans of developing countries, traffic pollution is one of the issues that endanger environment and health of citizens. Pollutants entering the atmosphere through traffic include nitrogen oxides, carbon monoxide, carbon dioxide, volatile organic compounds, particles, and ozone, each of which has detrimental effects on human health and the environment [12].

Traffic pollution refers to the damage that vehicle traffic, does to the body of the environment and living things, especially in metropolians and urban areas. Traffic pollution can be considered in four categories:

1. Air Pollution
2. Auditory Pollution
3. Visual Pollution
4. Obstacles.

Air pollution from motor vehicles accounts for a large share of urban traffic pollution. In addition to creating air pollution at the regional level, road traffic increases global air pollution.

Dust on the road itself does not have much of an effect on cancer, but when combined with exhaust fumes, this possibility increases. Icebreakers tire tiers increase the amount of dust impregnated with exhaust fumes by 5 to 6 times.

Hearing contamination refers to noise pollution. In general, noise is considered an unpleasant sound. Car horns, the sound of cars moving on the highway, the sound of planes and the sound of trains are examples of traffic noise.

Visual pollution generally means an unfavorable objective effect due to the presence of vehicles. Vehicles and roads are not in themselves visual pollutants, but in situations where the set of vehicles and roads merges with the viewer's standards or judgment according to the scene or landscape. In the form of an adverse effect, it is called contamination. Obstacles are a set of factors that affect a person's experience with roads and traffic, and that makes them look at road and traffic as an obstacle.

Oil pollution

For a long time, petroleum products and their derivatives have been contaminating the soil due to transportation or storage. Oil pollution is an inevitable consequence of rapid population growth and the process of industrialization, followed by soil pollution by petroleum hydrocarbons extensively around exploration and refining facilities and locally in the transmission routes of these materials. In addition to the direct emission of these pollutants, the dust from the fuel associated with petroleum gases has been

able to add toxic and harmful substances to the region's soils for many years [14].

Oil spills in water are usually both stable and unstable. In the unstable state, oil is rapidly prone to dispersion at sea level whereas stable type that does not have such a tendency to surface water. Unstable oils are usually in the form of kerosene with a coefficient of gravity less than 0.8. Stable oils are also in the form of black oil and have a coefficient of gravity of more than 0.8. When oil enters the aquatic environment, it changes in various forms, including physical, chemical, and biological processes, and affects the aquatic environment. As soon as oil pollution enters the aquatic environment, the process of physical and chemical changes begins.

These steps include the following steps: evaporation, expansion / emission, emulsification, decomposition, air and sea exchanges, and settling.

Chemical Oxidation of some oil compounds are often made with the help of sunlight. The decomposed compounds of these processes include Bitumen floating masses like solubility and particle deposition of hydrocarbons in columns and surfaces of water and Sedimentary material in the sea. The biological process takes place slowly along with physical and chemical processes, the most important biological and environmental processes include decomposition of petroleum products by microorganisms and conversion to carbon dioxide or organic matter in the intermediate phase, oxidation, and transport to high water levels by large organisms and metabolites, storage and discharge.

Knowing the effects of local winds and currents is one of the most valuable ways to determine the speed at which an oil slick will spread. In warmer waters such as the Oman Sea and the Persian Gulf, lighter parts of the oil spill evaporate due to rising temperatures. High oil pollution increases the activity of bacteria that break down heavier oil.

Random discharge and disposal, general, or operational unloading of oil by ships, especially oil tankers, offshore oil pipelines and platforms, are major and clear causes of oil pollution in marine environments.

Natural processes such as physical, chemical and biological are the reasons for the release and discharge of oil into marine environments. Oil emissions can have far-reaching consequences for the environment as well as for socio-economic areas, leading to changes at these levels.

Marine and coastal habitats, wildlife species, restoration and amendment activities, local industries, fishing, tourism and water sports are among the most important centers and sectors of environment that can be affected by the dangerous consequences of oil spills and pollution.

On the other hand, by affecting plankton, they disrupt the food chain. By covering the surface of the water with oil materials and layers, the penetration of sunlight is prevented and has a direct effect on the amount of primary production as well as the amount of oxygen in the water.

Oil pollution destroys beaches, aquaculture and fishing, as well as (oil pollution and emissions) affect seabirds, marine mammals, fish, snails, and marine life. (Foam animals, such as dicotyledons, are among the creatures that die quickly as soon as they come in contact with petroleum due to inactivity, and eventually the environment will be polluted.

Radioactive Pollution

Nuclear pollution is pollution caused by nuclear waste. These are materials that are produced in nuclear power plants through nuclear fission. Radioactive contamination is very dangerous and a serious concern in today's global nuclear program.

Nuclear pollution occurs when by-products of a nuclear interaction, whether man-made or natural, are released into the environment or in the vicinity of human habitats. Nuclear power plants and research stations are the most important contributing factors to man-made radioactive waste [13].

These facilities generate a nuclear interaction (usually fission) to generate energy (electricity) or conduct research. When a heavy atom of a nuclear fuel, such as uranium, undergoes nuclear fission, it leads to the creation of two female nuclei, each in turn radioactive. These by-products are not reusable and should therefore be discarded. Importing these radioactive by-products can cause contamination and serious and dangerous environmental pollution.

Radioactive contamination is rapidly becoming a major concern due to the increasing use of nuclear fuel. Nuclear radioactive products are discarded without any precautionary measures to separate their harmful components, which can contaminate air, soil and water and finally be harmful to environment. Much of the radioactive waste comes from nuclear reactors used in nuclear power plants and many other destinations. This may also occur during the extraction and refining processes of radioactive materials.

The Role of Environment Engineering in Reducing Pollution

Urban dwellers at the center are some of the most important environmental issues. Today, attention to urban living and urban ecological and Biotechnology development has been reborn. People have found that the connection between the city and the environment is inseparable. On the other hand, environmental pollution is one of the most important problems in today's society, which has a direct impact on the physical and chemical structure of important components of the environment, such as water, air, soil [1].

Following the growth of urbanization and population increases, especially in metropolises of developing countries over the years and the existence of environmental pollutants in cities, it is possible to highlight the role of environmental engineering and its practical techniques such as creating green space as the most effective and least costly way to moderate pollution.

The need for green space and its expansion can be considered as one of the most important factors in reducing pollution; therefore, with more awareness of the importance of positive functions of green space and the effects of irregular urban development, appropriate management programs by urban designers and environmental engineers, in many developed countries is designed and implemented to counter this threat.

Another environmental engineering technique is renewable energy, which as a clean energy source free of any environmental pollution can play an important role in reducing the emission of polluting gases such as carbon dioxide and other greenhouse gases. Environmental engineering includes planned scientific and technical solutions to deal with and prevent the occurrence of destructive and harmful effects of various types of pollution on the path of development and the challenges associated with it.

Given the growing population of the world, the need for countries to protect the environment is very important, because human beings can both destroy the environment and use scientific

principles and advanced technologies to prevent destruction and protect it. Environmental engineering reduces environmental pollution by providing relevant methods and techniques, among them, we can mention following environmental engineering techniques to reduce water and air pollution..... etc.:

Water pollution Reduction

1. Drainage and isolation methods of drinking water, agriculture storage ponds and artificial lakes [5].
2. Drainage and Isolation of Waste Sanitary Landfills.
3. Drainage and isolation of wastewater treatment lagoons
4. Isolation of Dikes bodies, Soil bands and dams.

Soil Pollution Reduction

1. In-Situ Methods are used at the same site of contamination and do not require excavation and minimize the possibility of exposure to pollution [7].

2. Exhaustion - caused by the exhaust or air conditioning through the soil. A vent that blows air into the soil enters the soil through a perforated or mesh pipe, allowing air to flow. But soil particles are not extracted. This method is limited to volatile organic materials and is relatively inexpensive.

3. Rinsing - In this method, the soil rinsed in its place with water and often air with a surfactant (active substance on the surface and inclusive hydrophobic or drainage and catchment areas that are used to reduce surface traction). then the output solution is collected at the bottom and refined or discarded. One of the advantages is that it can be used for different types of compounds, but due to the high use of water and the consequent high volume of effluent and high disposal cost, the use of this method is not very common. The porosity of homogeneity, texture and mineralogy of soil depends. Of course, the efficiency of the rinsing technique depends on the permeability, homogeneity porosity, texture and mineralogy of the soil.

Other ways to reduce soil pollution include:

1. Preserve soil herbal coverage (forests and pastures) and create green space and tree planting
2. Using the correct methods of cultivation in farms and orchards and agricultural gardens
3. Preventing the penetration of oil, gasoline and car oil into the soil
4. Prevent the creation of unnecessary waste and separate them for recycling
5. Using natural fertilizers instead of chemical fertilizers
6. Less use of non-degradable materials such as disposable containers
7. Proper use of resources
8. 8.Biodegradation - Isolation - Involvement - Inadequate methods (including: field refining - thermal refining - in mixing with asphalt - stabilization - hardening - chemical extraction - excavation - use of plants to clean contaminated soils - beard filtration - Plant Stabilization - Plant Evaporation - Refining Plant - Using Absorbent Cloud Types).

Air Pollution Reduction

Today, environmental engineering contributes greatly to soil pollution by providing techniques and methods, some of which are as follows [10]:

Shoot Fog in the Air

In this method, a Thick fog is fired towards the construction and industrial areas in form of ball. These balls convert liquids into tiny droplets and spread them in the air. These dealing with the particles of pollution collect them and return to the ground like rain. This device can collect particles larger than 10 microns. Although this amount is not enough to eliminate all the pollution, but the changes made by it will be significant.

Use of Water in the Facade of the Building

The pattern of water use in the facade of the building stems from the cleaning of the air by rain. During the rainy season, nature helps to create a mechanism for removing pollutants in the form of raindrops, in which air pollutant gases are absorbed and solid particles fall into the raindrops. On the subject of using water in the facade of the building to control air pollution, two ideas, "water spray on the facade" and "blue curtain" can be proposed.

The Idea of Building-Based Bio-Shells

Architecture can have a positive or negative effect on the energy efficiency of a building and also effectively improve air quality. Shells capable of controlling air pollution are not limited to the biological shells in this section, and other structures, as well as examples of materials with technology, are included.

However, the focus here is on shells based on nature. Here the capabilities of nature in the discussion of air pollution control enter the field of architecture, and these strategies are examined in the three titles of "blue views", "algae views" and "living green shells".

Facade Algae

In contemporary architecture and in urban buildings, the popularity of glass spaces continues due to its aesthetics. However, the environmental effects of using glass facades increase concerns due to a sharp drop in temperature and an increase in unwanted heat. Algebraic living systems, as a sustainable alternative, are proposed to combine an algae bioreactor in a glass facade.

Algae facades have capability to provide light transmission and, as a load-bearing wall, can replace current glass systems with good thermal and structural performance. Algae facades are designed to improve air quality in the environment by producing oxygen and absorbing CO2 carbon dioxide by photosynthetic algae.

Green views: Using plants on a small or large scale can have significant effects on air pollution. However, although trees can be very effective in reducing air pollution, planting trees in metropolitan areas is not always easy. Green walls can be a good alternative to green space. Be urban spaces.

Water Spray Idea

The idea of spray water spray is "anti-pollution gun", is introduced to reduce air pollution, a spray machine is used to throw water into the air. The purpose of the move was to integrate water droplets with dust particles and have a similar effect to rain to reduce pollution levels. This idea can only be done in a local setting, and in a short amount of time, but it is not fundamentally responsible for controlling air pollution [10].

Facade Water Shell

Facade Water Shell is another solution in using water to control air pollution of building's outside air before entering by air filtering, depending on the season, the tall waterfall that is prepared in this way is effective in regulating the humidity to achieve fresh air from the incoming air. Achieving fresh air is the main purpose of using this waterfall in the building, which, while cleaning the air, regulates the humidity of the incoming air before distributing it in the atrium. Each strand of this Facade water is a unique 4-millimeter strip, of strong, thin polyester, which is weighed slowly down by the weight of the strips to control the water flow of each strand and provide the maximum amount of air flow by penetrating the Facade Water.

Of course, there are some more ways to reduce Environmental pollution caused by air contamination that can be summarized as follow:

1. specific toll determination for gasoline consumption in metropolitans to encourage people to reduce the use of private cars and provide municipalities or agencies appropriate financial resources for the development of public transport, green space and other measures to reduce air pollution
2. Pay attention to the use of solar energy and other clean energies in providing heat and hot water for home use.
3. Determining the allowable limit of exit from car exhaust, determining the standards of exhaust gases from passenger cars and vans, determining the standards of exit from factories and production workshops, as well as hydrocarbons emitted from polluting sources.
4. Use better fuels and equipment to control pollution in the electricity sector and also take anti-pollution measures in the industrial sector.
5. Increasing the prevalence of compressed natural gas consumption (CNG).

Reduce Noise Pollution

Due to the adverse effects and consequences of noise pollution in natural, social and especially human environments, the need to control it is considered seriously. One of the most common ways to control and reduce sound pressure is getting away from the sources of sound and noise sources. One of the reasons to shift industrial centers and factories to outside the city is to create a sufficient distance from them and not to be in the audio spectrum of these centers [4].

Methods of controlling and reducing noise pollution are divided into the following three groups:

A. Control of Audio Resources - such as the use of modern technologies in the production and production line, repair and regular maintenance of devices and facilities.

B. Control between the Source and Receiver of Sound- high walls construction around highways near residential areas that significantly reduce noise pressure. By planting trees around noisy areas, also can reduce amount of audio pressure.

C. Control at the Sound Receiving Point - In buildings that are exposed to sound pressure or sound recording centers, thick fiber walls can be used as sound insulation. Fibers are a very strong absorber so that they can receive all the energy of the waves and turn it into thermal energy and prevent the sound from exit and entry

Noise can be reduced by environment engineering scientific and technical methods. Among the measures in this regard are: [8]

1. Using high quality asphalt to reduce the amount of abnormal noise from the movement of vehicles
2. to transfer and shift factories and users with high noise level outside the city
3. Creating culture through radio and television and acquainting people with the harmful effects of sound
4. Using double-glazed windows in factories and houses.

* In order to deal with and reduce noise pollution and annoying noise in buildings, sound insulation should be used that has this property. Materials which may use that are able to absorb sound waves and reduce their amount are known as acoustic materials...

5. Lead Sound Insulation: These insulations can be used as sheets on thin partition blades and on other materials using a special adhesive.

6. Tiles and Cells Made of Cellulose Fibers: These tiles are usually made of sugarcane fibers that are pressed under pressured and made into boards and are usually made perforated so that sound can reach the holes between the fibers and absorb it.

7. Tiles Made of Mineral Fibers: These tiles are produced in industrialized countries from the slag of the steel furnace and are made in the form of slits or holes to increase their sound absorption.

8. Perforated Metal Tile: These tiles are made of aluminum or steel sheets, the surface of which is perforated and filled with materials such as mineral wool and covered with white baked glaze.

Acoustic materials should be uniform in appearance and flawless and free of loose and durable materials. Resistance to the pressure of cutting and stretching and absorbing water and porosity and the invasion of living organisms such as insects are features of acoustic materials that can be considered along with its easy carrying.

9. The use of porous asphalt with sound insulation walls around highways and increasing green space and observing privacy between residential and highways is one of the ways to control and reduce noise.

10. Creating green space around highways ds is more effective than other methods, and planted sycamore trees perform better than sound walls, as long as the number of trees is large and they are planted with the same planning.

11. Non-Compliance between Homes and Highways is one of the main causes of noise pollution for citizens. However, even cities with a population of less than 100,000 in European countries are required to provide sound levels in various areas, which these plans help in the design of location of the highway and their distance from residential areas.

12. In metroplians, in addition to the noise pollution that most people in the city are affected by, the old architecture of the city is also troublesome in some areas The existence of an airport

inside the city and the passage of a train from some neighborhoods of the city have made the situation in these areas critical. The houses can have used glass wool on the walls and ceiling.

13. Control of sound caused by motor vehicles, that for this purpose the ability of traffic knowledge and urban transportation should be used. In locating facilities and equipment, guidance of intercity travel, speed control, technical control of vehicles, etc.

Traffic Pollution Reduction

1. Intelligent Transportation Systems (ITS) which is a collection of modern technologies such as digital cameras, satellite positioning systems (GPS) and intelligent algorithms used in computers. And it's a way to improve traffic, increase safety, reduce fuel consumption and reduce air pollution [12].
2. Migration, population and traffic reduction in metropolitan areas.
3. Using Hydrogen and Electric Vehicles
4. Expansion of Internet and telephone taxis
5. Equipping taxis with citizen card readers (Man cards)
6. Organizing the taxi system in the city and preventing the movement of stray taxis
7. 7.Paying attention to civil rights with the aim of providing the best quality and services to the people; the requirement to use air conditioners on hot days of the year; observing public and private health for taxis and taxi drivers;
8. Exhaustion of worn-out vehicles; use of standard fuel; standardization of vehicle; compliance with rules and regulations.
9. Changing the opening hours of shops in metropolitan areas,
10. Day and night subway lines taking into account the safety of citizens,
11. Contrary to popular belief, the streets are flooded in the morning, not to clean the streets, but to wet the roads and catch the pollution caused by car fuel burns.
12. Chimney installation
13. The idea to build a large chimney that can lift polluted air and clean the sky. The idea of using the emerging technology of solar chimneys (which is used in the generating of electricity) in repelling air pollution in metropolitan areas, which is much simpler and easier to improve than the quality of fuel, cars, control of polluting industries, etc.
14. Use a catalytic converter to convert carbon monoxide and transcriptional hydrocarbons into carbon dioxide

Radioactive Materials Reduction Pollution

In the process of using radioactive materials, some radioactive waste is generated. The issue of production of radioactive waste has been considered since the discovery of these materials [11].

The amount of radiation from many ISO balls is life-threatening. Exposure to radiation can have irreversible side effects. Like cancer and radiation burns, or like strontium, which is replaced by bone calcium and can act as radiation in the body. Unfortunately, many radioactive nuclei (radio atoms) have a long half-life.

Therefore, the issue of separating, storing and safely destroying them by increasing the use of these substances at all levels and their energy levels is widely discussed from year to year. Application of microorganism in the field of biotechnology due to the importance of genes and their specific genetic information is dramatically increasing.

Recently, biological methods have been used to remove and eliminate radioactive waste from the environment. Therefore, in order to reduce high costs for the elimination of this type of waste, environmental engineers have suggested to use microorganisms such as Dino Coos and Radio Durans.

Among the advanced technologies available for waste recycling, Radio Active is the best bioremediation strategy, using organisms such as Dino Ko Koos and Radio Durans, which are highly resistant to radioactive radiation. Another solution is to reduce and eliminate environmental pollutants by not dissolving radioactive materials. This will keep the material constant and prevent it from penetrating.

Another way to disinfect these materials is to use metal-reducing kettles, which can sediment radioactive metals.

Another way is to use genetically engineered microbes. Microbes are highly resistant to contaminated sites and also have biologically correct properties. For example, garden radiation can damage the genome of most bacteria.

Oil Pollution Reduction

To control, recycle, and purify oil from the polluted environment or beaches, various methods are used to remove oil contamination. In order to prevent the spread of oil in the water, reaching the shore, the operation to combat oil pollution begins. Fortunately, parts of the crude oil components evaporate in the early hours of the accident or go deep into the sea through the energy of the waves. However, the spilled oil must be controlled quickly to minimize damage to people, the environment and facilities [2].

These operations involve two steps: controlling and recovering oil, using mechanical or alternative methods, including chemical, biological, or combustion methods. Mechanical methods are often used to control oil and collect it from the sea, but in some cases one of the chemical methods mentioned must be replaced. In clearing and submerging oil from the shores, natural processes and physical methods are used, which can be called environmental engineering operations to reduce pollution, including: the physical method of dealing with the sea - the use of booms and floating dams - the use of scum Skimmer is a device for recovering spilled oil at sea level. The efficiency of skimmers depends on the weather conditions. In turbulent waters, skimmers recover less oil. There are three types of skimmers: · River skimmers · Absorbent oil skimmers · Absorption skimmers - Use of adsorbents: Chemical method.

Conclusion

One of the concerns about the increasing development of industries and factories in today's society is the issue of environmental pollution. Humans are the most effective and important factor in changing the environment. Factors such as population growth, industrial progress, availability of natural resources and many other similar cases are effective in environmental degradation. Pollution has a profound effect on various aspects of human health and environment, but by observing some cases, we can reduce the amount of negative effects caused by environmental pollutants.

This is so important that if we do not think of a solution, we will have to wait for catastrophic events in the not-too-distant future. Loss of environment is a serious threat. From air pollution to water scarcity and deforestation and soil erosion and greenhouse gas emissions, all of these are the result of human activity and the impact of technology on the environment. But in addition to the fundamental and large-scale solutions that governments are responsible for pursuing and implementing, efforts can be made to use environment engineering techniques and methods to protect the environment. Saving the land from pollution is something that all sections of society need to pay attention to, so that everyone can help to have clean land by doing simple tasks.

In this paper, while examining the types of environmental pollutants and the classification of these pollutants that are caused by urban metabolism, solutions were presented to reduce the effects of these pollutants. According to studies, urban pollutants can be distinguished into noise, visual, air, sewage and waste pollution. In this paper, using descriptive-analytical method, on the one hand, to identify and classify the types of environmental pollutants, and on the other hand, to provide solutions to reduce pollutants and reduce their effects. The main purpose of this article is to review the ways to reduce the environmental consequences of urban growth and development and various pollutants in environmental factors such as soil, air, sound, water, etc., as a basic goal and to provide strategies and approaches and using environmental engineering techniques for implementation. Therefore, what presented in this article is to provide solutions to prevent production on the one hand and reduce the negative effects of these pollutants on the other hand. Environmental pollution or the elimination of impurities created by the environment reduces the risk of toxins being released and at the same time prevents waste transportation, disposal and treatment costs, saving new costs and the organization.

Refining control reduces the cost of materials, operations and pollution, or waste treatment and disposal.

And make the use of raw materials, staff resources, equipment, energy and water more efficient, improving workers' health and safety by improving air, water, soil and soil quality, reducing the use of toxic substances and thus reducing the needs of personnel protection equipment and reducing regulatory requirements. By eliminating the need for licenses, the harms of hazardous waste, monitoring and reporting. And improving community relations, company image…. etc.

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