

# Environmental engineering

[Engineering](#)



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It was traditionally a specialized field within civil engineering and was called sanitary engineering until the mid-1900s, when the more accurate name environmental engineering was adopted. Projects in environmental engineering involve the treatment and distribution of drinking water; the collection, treatment, and disposal of wastewater; the control of air pollution and noise pollution; municipal solid-waste management and hazardous-waste management; the cleanup of hazardous-waste sites; and the preparation of environmental assessments, audits, and impact studies.

Mathematical modeling and computer analysis are widely used to evaluate and design the systems required for such tasks. Chemical and mechanical engineers may also be involved in the process. Environmental engineering functions include applied research and teaching; project planning and management; the design, construction, and operation of facilities; the sale and marketing of environmental-control equipment; and the enforcement of environmental standards and regulations.

The education of environmental engineers usually involves graduate-level course work, though some colleges and universities allow undergraduates to specialize or take elective courses in the environmental field. Programs offering associate (two-year) degrees are available for training environmental technicians. In the public sector, environmental engineers are employed by national and regional environmental agencies, local health departments, and municipal engineering and public works departments.

In the private sector, they are employed by consulting engineering firms, construction contractors, water and sewerage utility companies, and

manufacturing industries. Ever since people first recognized that their health and well-being were related to the quality of their environment, they have applied thoughtful principles to attempt to improve the quality of their environment. The ancient Harpoon civilization utilized early sewers in some cycles. The Romans constructed aqueducts to prevent drought and to create a clean, healthful water supply for the metropolis of Rome.

In the 15th century, Bavaria created laws restricting the development and degradation of alpine country that constituted the region's water supply. The field emerged as a separate environmental discipline during the middle third of the 20th century in response to widespread public concern about water and pollution and increasingly extensive environmental quality degradation. However, its roots extend back to early efforts in the mid-19th century when Joseph Baguette designed the first major sewerage system that reduced the incidence of waterborne diseases such as cholera.

The introduction of drinking water treatment and sewage treatment in industrialized countries reduced waterborne diseases from leading causes of death to rarities. In many cases, as societies grew, actions that were intended to achieve benefits for those societies had longer-term impacts which reduced other environmental qualities. One example is the widespread application of the pesticide DDT to control agricultural pests in the years following World War II.

While the agricultural benefits were outstanding and crop yields increased dramatically, thus reducing world hunger substantially, and malaria was controlled better than it ever had been, numerous species were brought to

the verge of extinction due to the impact of the EDT on their reproductive cycles. The story of EDT as vividly told in Rachel Carson's " Silent Spring" (1962) is considered to be the birth of the modern environmental movement and the development of the modern field of " environmental engineering. "

CHAPTER 2 Water Pollution Water pollution is the contamination of water bodies (e. . Lakes, rivers, oceans, aquifers and groundwater). Water pollution occurs when pollutants are directly or indirectly discharged into water bodies without adequate treatment to remove harmful compounds. Water pollution is caused by raw sewage, industrial pollution, runoff and oil. Sewage comes from the untreated water. When there is a massive rainfall, the water treatment plant cannot process the sewage fast enough and have to dump untreated sewage into large bodies of water. This untreated sewage water contaminates the environment and causes diseases.

The sewage is usually treated in the treatments plants and then dumped back into the sea. Industrial waste the industrial business uses the fresh water that has to carry all their waste away. So then that means that all chemicals get into the fish water and polluting the water. Oceans get polluted daily by oil and runoff. The ocean is probably the worse for getting polluted from oil because it happens really often by ships and boats. The sewage water goes off into different rivers without it even having any treatment done to it. And oil doesn't dissolve when it's been in the water for a while. What pollution also comes from people?

Like when they throw all their airbag like out on the streets or instead of throwing it away they just like throw it out of the car and they say other people will pick it up. So that's where a lot of pollution comes from. Some of <https://assignbuster.com/environmental-engineering/>

it also comes from buildings and boats like oil and chemicals and that pollutes the water to. Water pollution affects plants and organisms living in these bodies of water. In almost all cases the effect is damaging not only to individual species and populations, but also to the natural biological communities. In the Philippines one of the major environmental problems is water pollution.

Upon a glance, you could say that the bodies of water in the Philippines are polluted, slowly dying, not being cared for. The current state of the aquatic ecosystem helping this problem. Only about 10% of sewage in the Philippines is treated or disposed of in an environmentally sound manner. The rest goes back to nature - usually the sea. In this context of poor waste treatment and high population growth, water pollution is a growing problem for the country's groundwater, rivers, lakes, and coastal areas. Polluting industrial material is also found in abandoned mining areas, with mercury pollution affecting water bodies in these areas.

These problems are unfolding in a context of poor planning, and weak management and enforcement of regulations. There are effects of water pollution to us and some effects are as follows: Water Pollution Effects  
Waterborne diseases caused by polluted drinking water: Typhoid Amoebas  
Guardians Scarifies Hookworm Waterborne diseases caused by polluted beach water: Rashes, ear ache, pink eye Respiratory infections Hepatitis, encephalitis, gastroenteritis, diarrhea , vomiting, and stomach aches  
Conditions related to water polluted by chemicals (such as pesticides, hydrocarbons, resisters organic pollutants, heavy metals etc): Cancer, inch. Roseate cancer and non-Hodgkin lymphoma Hormonal problems that can  
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disrupt reproductive and developmental processes  
Damage to the nervous system  
Liver and kidney damage  
Damage to the DNA  
Exposure to mercury (heavy metal):  
In the womb: may cause neurological problems including slower reflexes, learning deficits, delayed or incomplete mental development, autism and brain damage  
In adults: Parkinson disease, multiple sclerosis, Alchemist's disease, heart disease, and even death

CHAPTER 3 As discussed in the paper, water pollution has not ceased to exist.

In fact, it is safe to say that water contamination has increased over the years. Population growth, industrialization, urban sewage, human waste, point and non- point sources, chemical run- off, the unmonitored discharge of pesticides and fertilizers into our rivers, lakes and streams, as well as, the man- made changes to freshwater systems are many of the factors which have contributed to the gradual increase of water contamination. Since water pollution results from such wide variety factors, it is not surprising, that the issue has not yet been solved or at least efficiently managed.

Water pollution is bad for the environment and for people that drink it. The topic is about all the water pollution and trash and toxic chemicals that get dumped into the water. It's also not good for all the living organisms that are in the lake or rivers because of water pollution. Water pollution is bad because it's not good if people drink it and for all living things in the water that drink it also and get really sick. Aren't we aware of the different problems occurring in our nature, especially in different bodies of water?  
Water pollution is the cause of our undisciplined actions and irresponsibility.

We, humans are only creating problems that consequently we will also carry the burden of these problems. We all know that water pollution can affect our health badly and seriously. It can cause such sicknesses and diseases that will badly affect our health. We all know how important water is. Water is essential to our body. Neither we nor every living thing can't survive without water. And so therefore, we should keep, protect, save, and help prevent our waters from being polluted, we should act as early as now, we should save rivers, seas and oceans, and other bodies of water because we will also bear the burden of this problem.

We should not wait for the time until people are competing just to get sufficient, fresh and clean water, the time where clean water is insufficient to the people and animals, and the time where in our sources of water are diminishing or until the time where there are totally no sources of water. And so, let us be disciplined and responsible enough to save, protect and conserve not only sources of water but also our mother nature because our nature provides and helps us in our daily lives. Let's just realize how important our mother nature is. It is our only source of living. Let us not destroy it nor pollute it.

Let us act for a change. We need and we should help save and conserve our mother nature, especially the different bodies of water. Absolutely, there are many simple ways in how we can help. Change ourselves before we construct changes in our nature. **RECOMMENDATIONS** Share the responsibility to deal with it, once individuals- particularly teenagers and young adults acknowledge the seriousness and ultimate consequences of this environment issue; they may then begin to look for ways to act upon the <https://assignbuster.com/environmental-engineering/>

problem. One way to get them involved is by educating themselves about the issue at hand, and voicing their concerns.

Join some of environmental protection groups in the country and sign petitions to avoid, or diminish unnecessary discharge of pollutants into our oceans, rivers and lakes. Moreover, they may make suggestions in regards to the creation of legislations focused on environment protection by contacting some of the congressmen. Participate in some international coastal cleanup being conducted in some polluted coastal areas here in the country. It may not completely eliminate the pollution but it can be a great factor that can help decrease the polluted water bodies here in our country.

Contact Local Government Units about conducting some activities in your Barangays or municipalities that can help or improve the condition of the polluted water bodies in your places. For example, conduct a fun run or concerts and the funds that can be earned will be used to clean the water polluted areas. Some solutions to stop water pollution is to help keep the areas or streets where you live clean so there's not a lot of garbage around where you live so that the garbage doesn't get carried down the sewer to the lakes or rivers. And you can stop runoff by keeping your yard clean and no garbage in it and anything else to try to stop pollution.