**THE CONCEPT OF TECHNOLOGY**

Technology is largely identified with the hardware of production or technical artifacts. Frances Stewart [101] provided probably the broadest definition of technology by including all skills, knowledge and procedures required for making, using and doing useful things. Technology in her definition therefore includes the software of production – managerial and marketing skills, and extended to services – administration, health, education and finance. Smillie  [95] describes this broader definition of technology as ” the science and art of getting things done through the application of skills and knowledge “.

In general,  the concept of technology implies a subtle mix of know-how, techniques and tools. Technology in this sense is vested in people – their knowledge, skills and routines – just as much as in the machine they use. Machines and tools are only the physical manifestation of a particular technology or technologies. Indeed, mere access to the physical elements of technology – even if accompanied by instructions for their use, and time to build up experience in using them – does not automatically lead to ‘mastery’ of that technology  [2]

***Definition of environment***

We can define environment as that space in which some kind of natural Exchange that makes possible the life takes place. The environment is not only the space if not also different forms of life that take place in it. I.e., if we were speaking of space only we would be referring to a spatial location. On the other hand, the concept of environment expands this last idea to include everything that has to do with life in that space it develops. Today, the environment is a topic very much in vogue because of all the debate that is generated around to their care and how human activity contributes increasingly more raido to damage it.  
The environment is not anything other than the Middle, precisely the place or space in which different life-related processes are carried out. This life can be very different if it takes into account not only human but also the animal and vegetable. Each environment is characterized by particular elements that make it special and different from the rest, so it is impossible to speak of a just environment. To better understand what the environment is composed, should speak of three levels: the physical, biological and, if necessary, the socio-economic. In the first, we are referring to everything that has to do with geography, climate, geology. These elements form the basis upon which all life forms will be established. Biological drawing is thus composed of the human population as well as the flora and fauna that occupy this space. Finally, the socio-economic environment is which refers to the activity of the human being and its effect on the environment.   
The biggest problem that presents the environment today is one that has to do with the damage that man has been causing him to it in recent centuries. In this sense we must say that the environment may present changes or natural disturbances that have to do with the physical space or even the actions of different plant or animal species (such as for example when generating the phenomenon known as plague). However, there has not been more significant changes to the environment than those that the human being has generated with his industrial, productive and economic activities: deforestation, pollution, urbanization, the use of elements or chemical products and, ultimately, change climate, are some of the results that this alteration of the environment generates, affect them all the living beings that inhabit the environment.

**Concept of environment**

The environment is the set of circumstances that surround outer form to a living being. This encompasses all living and non-living beings and the way in which these interact among if. The concept of environment can be divided into two main components: ecological aquellasunidades with defined boundaries which function as authentic natural systems sinnecesidad of human intervention, and universal resources that do not have borders or edges defined, such as water, air and climate.  
The word environment is also used to speak of a habitat, as when he is said to be the natural environment of the camels desert. When the environment forms a consistent functional natural units of plants, animals and microorganisms, is says that we are in the presence of an ecosystem. Some ecosystems are forest, desert, tundra, and the savanna.  
Environmental changes and changes by a multitude of external factors. The most common are the natural, among which we can find to living beings and the climate in all its variants (cold, heat, rain, snow, etc...). Forest fires, deforestation and the relief also play an important role in determining that as friendly or hostile is a territory for certain types of living beings.  
However, with the growth of societies human and the expansion of urban settlements, today the environment is also modified by actions and developments human, often resulting in serious environmental damage. The most notorious consequence is global elcalentamiento, whereby the global temperature of the Earth has been increasing markedly due to the release of specific gases into the environment. This temperature rise, according to a good part of the scientific community, will lead to extreme changes of climate and the eventual rise of the temperature of the seas, endangering thousands of species, including human beings.

**TECHNOLOGY AND ENVIRONMENT**

The technology doesn't operate in a vacuum ,it does so in an envirnoment.  
So the applications of technology will surely influence the environment with all its components.  
High emission cars will pollute the air for example. Environmental friendly technical applications aim to reduce the negative effects on the surroundings.  
The environment could also influence the choice of a certain technology or the possibility of applying a certain technology.The surrounding with all its elements such as atmosphere,location,geographical formations etc will put limitations to certain technology applications; e.g air conditioners \* coolers\* are likely to be used in hot climates while heaters in cold ones.  
During the procedures of developing a certain technology many environmental factors are taken in account . They could determine the characteristics of the produced technology.   
So there is a reciprocal relationship between both.   
The environment serves as the room or the place where the technology is put into practice,therefore it is inevitable that there will be a constant interaction between them.

***Transcript of The relationship between technology and the environment***

Technology leads to speedy developments and changes. But at the same time technology gobbles up resources very fast. It means that the depletion of raw materials is also very fast.  
The relationship between technology and the environment is sort of mixed. In some ways, it is good for the environment, but in other ways it is bad.  
Bad: The main problem with technology is the fact that, as we get more and more technology, the demand for electricity rises (as more people want to use electronics in more ways). This, of course, means more fossil fuels will be burned to make the electricity. In addition, some components of electrical devices are very harmful to the environment if not properly disposed of.  
Good: Ideally, IT can be used to help reduce stress on the environment. A good example of this is the "smart grids" that are under development. These would, it is hoped, help us use electricity much more efficiently, thus reducing the demand for electricity and the amount of resources used to produce that electricity.  
Therefore technology is a very powerful tool available to us today to improve performance in any endeavour of human activity. It can be used to achieve any given objective of human endeavour more effectively and efficiently. Protecting and improving environment is one of the many areas in which information technology can contribute a lot. The relationship of information technology with environment is same as that with any other organized activity.  
Science and technology is the best thing society could ever ask for. Since the industrial revolution in the 18th century science has been in progress. Some sectors that have been boosted by science and technology are energy, physical sciences, information and communication. The society has greatly gained with the invention of technology.  
The developing world has a long tradition of participatory action research, popular education and community organization joining up to solve some science and technology issues that affect the society. How is science and technology related to the society is something that is calling even for the government intervention  
Without society then there would be no science and technology and that is why the invention of certain tools and equipment have helped achieve big things. Society can not do without the industries we have today. The society needs science and technology.   
The creation of computers is work of art by individuals was a milestone that would come a long way in helping the society. A computer helps us to leverage ourselves by gaining valuable information that we can use to enrich our lives. The impact of science and technology can seriously be recognized.   
Science and Society   
Technology and   
Change   
The advent of Internet social networking and mobile phones has changed how often humans interact with each other and how they stay connected. Multitasking and filling up time with communication technology challenges actual productiveness.   
The use of the postal service to mail cards and letters, telephone books, newspapers and telegrams have plummeted. Book stores and music stores are no longer needed. The Internet has changed the way political campaigns are conducted, and people can diagnose their own medical problems or search for free legal advice on the Web.  
Wi-Fi technologies change how public transportation works. Robotics has changed the workplace providing for some tasks to be completed by automated systems. Applications and online shopping allow purchases to be made using a bar code app or PayPal.  
Technology has made wristwatches obsolete since electronic devices have clock displays. The foundation of privacy principles are forever changed with photo-sharing sites such as Instagram and Flickr. People sleep less, work less and spend less time physically together socializing and communicating when using technology.  
With the advancing of technologies that are able to overcome the obstacles of time and space (e.g., airplanes, cars, the Internet), one would think that these tools would be used to gain an understanding of other cultures, meet people all over the world, maintain and strengthen familial relationships, communicate effectively with others, and help people to become more socially adept. However, some technological advances cause people to be distracted, overly stressed, and increasingly isolated.   
Many people are involved in an abundant number of relationships through technology, but sometimes the quantity of these associations leaves people feeling qualitatively empty. Obviously, technology has had a profound impact on what it means to be social.  
Social networking sites, and today’s communication tools. Then we critically reflect on gaming and television. Think about how each technology affects your social life and social skills. Keep in mind that these are only a few of the technologies that may affect you socially.   
The use of social networking sites has both positive and negative consequences. It is amazing how someone can find a long-lost friend through a social networking site, enabling them to reconnect. In a society where people have become quite mobile and family and friends are often geographically separated, it is convenient to keep in touch through technology.  
Mass Media  
Mass media is the means that are used to communicate to the general public. we will learn the different platforms for mass media and the influence that mass media has on society. Mass media means technology that is intended to reach a mass audience.  
It is the primary means of communication used to reach the vast majority of the general public. The most common platforms for mass media are newspapers, magazines, radio, television and the internet. The general public typically relies on the mass media to provide information regarding political issues, social issues, entertainment and news in pop culture  
**Computers**  
Computers play a great role in the society. Whether at home, in school, at the mall or in the office, significantly help in the accomplishment of various tasks. Be it at work or at play, computers have undeniably been utilized to perform general or specific that enable to be more convenient and worry-free.  
Computers in Bussiness   
In the field of business, computers are very useful. They are used in keeping records of daily sales and profits. Computers are also used to prepare materials to promote the products of the business establishments.  
***Computers in Engineering***Engineers use computers to create the design of a complex object using a computer program for Computer-Aided Drafting.  
***Computers in Government***  
Computers are used to keep records of the people that the government servers. Several government agencies use computers to facilitate the task they are required to the people.  
***Computers at Home***Computers are used at home for recreational purposes. You can listen to music, watch movies, and play games. Children use their computers at home to do their schoolwork. Parents use computers to assist them in doing their tasks. If your computer at home has internet access, then you can explore the amazing features of the internet in the comfort of your home.  
***Computers in manufacturing***   
Computer are used in manufacturing to manipulate machine that perform dangerous tasks or perform tasks that are repeatedly done.  
***Computers in School***  
Computer Education is one subject to be taught in school today.Teachers use computers in classroom instruction, in computing grades and in preparing visual aids. Students use computers to study various computer applications. Libraries are connected to the internet and students access the internet for research.  
***Biotechnology***  
At its simplest, biotechnology is technology based on biology - biotechnology harnesses cellular and biomolecular processes to develop technologies and products that help improve our lives and the health of our planet.  
As our knowledge and capability in biotechnology increases, so do the potential benefits. However, while the intention behind new biotechnologies is to benefit society, determining what impact a particular biotechnology may have is complex.  
Biotech improves crop insect resistance, enhances crop herbicide tolerance and facilitates the use of more environmentally sustainable farming practices. Biotech is helping to feed the world by:  
• Generating higher crop yields with fewer inputs;  
• Lowering volumes of agricultural chemicals required by crops-limiting the run-off of these products into the environment;  
• Using biotech crops that need fewer applications of pesticides and that allow farmers to reduce tilling farmland;  
• Developing crops with enhanced nutrition profiles that solve vitamin and nutrient deficiencies;  
• Producing foods free of allergens and toxins such as mycotoxin; and  
• Improving food and crop oil content to help improve cardiovascular health.  
Biotechnology is helping to heal the world by harnessing nature's own toolbox and using our own genetic makeup to heal and guide lines of research by:  
• Reducing rates of infectious disease;  
• Saving millions of children's lives;  
• Changing the odds of serious, life-threatening conditions affecting millions around the world;  
• Tailoring treatments to individuals to minimize health risks and side effects;  
• Creating more precise tools for disease detection; and  
• Combating serious illnesses and everyday threats confronting the developing world.

**A Brief History of Technology and its Impact on Natural Environment**

written by: ciel s cantoria•edited by: Sarah Malburg•updated: 10/14/2010

Here’s a brief rundown on how technology dates back from Stone Age, when man first discovered how to make fire. This very first technology and its impact on natural environment brought greenhouse gas emissions which accumulated through more than a million years of widespread use of fire.

* + - **Technology Developments in Man's History**

The word "technology" is a broad term and does not simply refer to high-tech inventions or computerization, which is actually the misconception. Technology comprises the crafting of materials and transforming them into implements that allow man to control or manipulate natural resources in order to meet his needs. Technology dates as far back as the Stone Age, when man discovered how to make fire, 1.4 million years ago. In fact, no one could have thought back then that fire, including its wood burning technology could create an impact on today’s natural environment through its greenhouse gas emissions.

The cavemen learned how to make fire that provided them heat, light and protection against the wild animals that attacked them. They needed something to illuminate the darkness and to provide warmth when the great big ball of fire started to disappear from the sky. The cavemen’s first technological tools were stone axes and spears which were used as protection and hunting implements. Henceforth, succeeding steps were taken to improve what was initially invented. This further made man’s living conditions better and can be called technological advancements. The impact of technology on the environment back then was not too significant because it was mainly utilized to improve the supply of man’s basic needs.

As years passed, technological advancement was no longer confined to the mere purpose of meeting man’s needs for food, clothing and shelter. [Different forms of technological developments](http://www.brighthubengineering.com/structural-engineering/42738-materials-engineering/) described the era of each civilization. It started from Stone Age and was elevated to the Bronze Age and finally reached the Iron Age, which brought technological advancements in weaponry.

Neighboring countries and regions came to wage war against each other and often the victor was the one with better technology as far as weapons were concerned. Even today, major countries spend billions of dollars for warfare technology to ensure that no foreign leader or ruler can invade and claim a country or territory as his own. Thus, the negative impact of technology on the environment began to surface as more of the Earth’s natural resources and ecological habitats were being depleted or disrupted.

Advancements in technology also brought the finer things in life, making it necessary for man to accelerate his economic growth. Technology was used to speed up production and manufacture of goods, to provide better transport and delivery as well as make the methods of communication not only faster but also, far reaching. Trade and commerce flourished at faster rates due to technological advancements and brought about globalization. As trade and commerce grew, the more it [heightened the impact of technology](http://www.brighthub.com/environment/renewable-energy/articles/36442.aspx) on natural environment wherein air, land and water reached certain degrees of pollution, degradation and contamination.

* + - **Green Technology and The Aim to Reverse the Negative Impacts**

On a brighter side, new technology brought about what will be known in man’s history as the Computer Age. This era will become significant not only in greatly improving trade and commerce but also in bringing forth instruments that will lessen the accumulated negative effects of technology on the Earth’s natural resources.

Green technology has come up with better solutions of generating heat and energy. The sun’s powerful UV rays are being harnessed through [solar panels](http://www.brighthub.com/environment/renewable-energy/articles/20626.aspx) instead of the wood burning process. The kinetic powers of wind and [water currents](http://www.brighthub.com/environment/science-environmental/articles/21033.aspx) are being utilized to produce electricity that can lessen the demands for coal and fossil fuels.

Present day Green technology is decisively geared at lessening if not reversing all the negative impacts of technology since millions of people especially children have come to develop respiratory diseases as chronic illness. In fact in China, wood burning is still prevalent among millions of the country's households. The Asia Asthma Development Board ranks China as having the highest record of fatalities of its nation's asthma sufferers. These accumulated impacts started as far back as 1.4 millions years ago when cavemen discovered how to make fire and made use of wood as fuel. Today, as China's factories and communities continue to rely on coal as its main source of energy, it is expected that out of 100,000 [Chinese citizens](http://www.brighthub.com/environment/science-environmental/articles/36807.aspx)suffering from asthma, 36.7 are not expected to survive.

[Greenhouse gas emissions](http://www.brighthub.com/environment/science-environmental/articles/9987.aspx) have brought us global warming, melting glaciers, rising sea levels, air pollution, ocean acidification, disrupted marine and wildlife biodiversity, groundwater contamination, soil depletion and a host of other adverse effects that stem from other technological innovations that were conceptualized without considering the consequences. All these effects are intertwined as a result of gas emissions that accumulated in the atmosphere. It eventually penetrated the ozone layer found in the Earth's stratosphere.

* + - Communities take extra effort to green their lifestyle and lessen the negative impacts of technology on natural environment. However, nations continue to increase the use of technology in warfare and they produce weapons that make use of metals, chemicals and microorganisms that have far greater negative effects.
    - **The Effects of Warfare Technology on Natural EnvironmenT**

**Mining and its Technology**

It is said that the end of the Bronze Age began in 1200 BC, when the use of iron or metal came into the foreground as a better material for weaponry. Since then, almost every nation found it necessary to harness their environment’s iron resources to produce weapons for their warfare technology. Hence, metals even then played an important role in order for a territory or region to survive. Until mining methods were soon developed wherein mining technology had greater negative impact on the natural environment than the wood burning process that the cavemen discovered.

In the U.S., the mining industries brought acid mine drainage problems that led to a series of chemical reactions. It resulted into contamination of both surface and groundwater as natural sources of drinking water. The growth, development and propagation of fish and other aquatic life became disrupted. Waste water pipes, bridges and other metal structures submerged underwater resulted to corrosion and subsequently acid run-offs.

The Appalachian Coal Fields is the region where [mining activities](http://www.brighthub.com/environment/science-environmental/articles/19087.aspx) took place and where most of the mines produced different forms of metals. Some mines closed due to the advent of the Civil Wars in 1861-1865. Mines were abandoned and soon, the mine drainage problems surfaced with significant levels of toxic content. In fact, most of the mining industries in the Appalachian Coal Fields have since closed due to economic recession but not without leaving pollution problems. It is said that of all coal fields, Western Maryland has the most severe case of water pollution. The drainage run-offs carry acid, iron, aluminum, sulfur and other toxic substances into the nearby streams.

Inside these abandoned mines, mineral deposits became exposed to the Earth’s oxygen and resulted to chemical reactions which produced sulfide bearing mineral deposits. It later formed into a substance called pyrite (FeS2) and underwent another chemical reaction when it started to precipitate. The acid substance produced after precipitation is called "poisonous copper leachate" and it leaked into underground waterways reaching several miles and mixing with river water.

Based on this, the greater negative impact of technology, especially on land and water, all started when man discovered iron or metal as the best form of weaponry. The US may have eased down on metal mining but it relies on China for its supply of rare metal, since the latter country provides 97% of rare-earth metals bought in the world market.

**Technology in Warfare – The Use of Chemicals and Microorganisms**

Technology that was used for warfare brought other detriments that emanated from the manufacture of chemical weapons for mass destruction.

Large amounts of [Mercury waste](http://www.brighthub.com/science/medical/articles/17183.aspx) material was said to have been released in the environment at the time when nuclear weapons were being manufactured. TNT or Trinitrotoluol, is a known environmental hazard because of its ability and persistence to seep into the ground. The most frightening of all are the weapons of Biological Warfare which can be used even if there are no wars being waged but simply to sow terror. Infectious microorganisms in some form or substance will be released to cause death by way of diseases that will affect all living things, man, animals and plants.

It can be surmised that the accumulation of negative technological impact can be remedied by green technological concepts and change of lifestyle. In fact, everyone is encouraged to be patient and that the completion of environmental rehabilitation may take place not in our lifetime but of the future generations. Yet, whatever is being done to improve environmental conditions today can be easily wiped out with just one launch of warfare technology tomorrow, as man continues to engage in acts of war and terror. The more sophisticated the weapons, the more distressful the impact of technology on natural environment will take place.

*It may interest the readers to have more insights about the effects of warfare technology in the environment, as featured in a separate but related article entitled:* "[How War Impacts the Environment and People](http://www.brighthub.com/environment/science-environmental/articles/87675.aspx)".